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for doctors and their patients

The Official Journal of the NORTH CAROLINA MEDICAL SOCIETY January 1987, Volume 48, Number 1

Eosinophilic Granuloma: I Need This Like a Hole in the Head

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SPECIAL ARTICLE

The Geography of Inpatient Admissions in North Carolina: A Fifteen-Year Analysis

Thomas C. Ricketts, M.P.H.

NORTH Carolina's hospitals differ from those in other states by their large number, wide distribution, and generally modest size. In 1984 there were 130 general, acute care hospitals located in 83 counties. Those hospitals ranged in size from 12 to 765 beds with 49 (38%) having fewer than 100 beds and only 16 (12%) having more than 400 beds. This system of hospitals reflects a dispersed, largely rural population organized around a tradition of independent county government.

Much has been written about whether the state needs this many hospitals given the growth of technology, good transportation, and a trend to lower hospitalization rates.[1] However, those discussions have focussed on the financial and organizational concerns of hospitals. The hospitalization patterns of the population have geographic dimensions as well; these are related to general market-area forces as well as the distribution of clinical resources and the relationships among physicians.

Patient Origins and Health Planning

Patterns of intercounty hospital admissions were first analyzed in 1972 by the Social Research Section of the University of North Carolina at Chapel Hill Division of Health Affairs. Figure 1 (next page) is adapted from that original analysis. The analysis was in support of a growing interest in the development of regional health planning areas. The passage of the National Health Planning and Resources Development Act of 1974 revived the interest in regionalization as the state prepared to develop a system of Health Service Areas centered around Health Systems Agencies. That process involved the description of rational hospital market or service areas. A discussion document was developed by the Health Services Research Center at the University of North Carolina at Chapel Hill which, again, described cross-county admissions.[2] Figure 2 (next page) is adapted from that analysis.

In 1985, there arose a different set of concerns over the future of the health care system. The continued viability of small, rural hospitals was in doubt and the fiscal stress on all hospitals was giving rise to concern over the distributiuon of charity care for indigents. Again, an anlysis of the intercounty movement of inpatients was organized to determine if there were patterns of admissions that might serve to redistribute the burden of care among counties. Similar maps to the ones prepared in 1972 and 1976 were developed using the same patient origin data with the addition of a special analysis of Medicaid patients, which became available for the first time in that year. Figures 3 and 4 (next page) are the results of that analysis.[3]

Each of the maps utilized hospital-reported patient origin data except for figure 4 which is based upon the Medicaid Claims File collected by the Division of Medical Assistance and organized for analysis by the state Center for Health Statistics. The choice of the 10%-or-greater level of cross-county inpatient movement was based on the comparability of that figure with the earlier analyses. Each figure will be discussed in the context of health and medical care system changes and conditions related to the data presented in the maps.

The Geographic Consequences of a Changing System

In 1969 there were 132 general, acute-care hospitals operating in the state distributed in much the same pattern as 15 years later. This earlier distribution of hospital resources met local needs very adequately and was the result of an eight-year period of consolidation which resulted in more beds in fewer hospitals. That trend was described to be the result of a growing "sophistication of equipment and personnel needed to provide good hospital care, and the cost of providing it." Such trends were said to "demand that hospitals be larger and fewer."[4] The referrals to large, tertiary care hospitals outside the smaller counties was not very great, as figure 1 indicates, although the analysis of the distribution of hospitals and hospital beds from which the above quote was taken made much of the fact that the movement of patients across county lines indicated a strong need for regionalization of facilities; "such regionalization could form the basis for further planning for the future of the state's hospital system."[5]

The referral and admission patterns of five years later indicated the extent of this growing centralization of hospital services. Figure 2 shows a very large increase in the number of cross-county admissions and reflects the growing importance of the larger hospitals in a system that was focusing more and more on inpatient treatment using sophisticated technologies. The pattern of cross-county admissions in 1974 include several very distant referral paths that run against the rational division of the State into medical service areas. The teaching hospitals, especially those adjacent to medical schools, were drawing patients from counties close to large, non-teaching hospitals.

From the Health Services Research Center, University of North Carolina, Chapel Hill 27514.

Figure 1

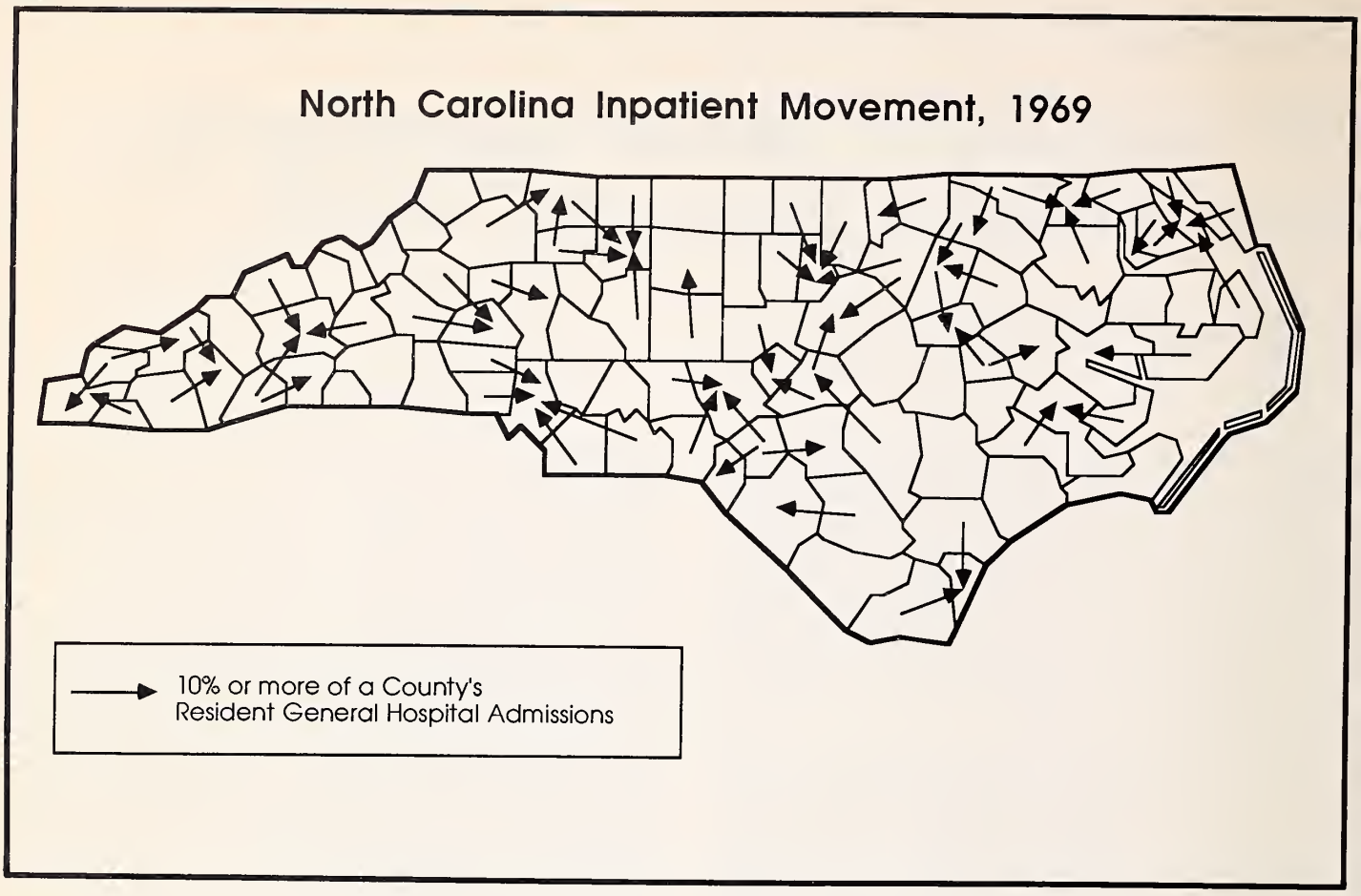


Figure 2

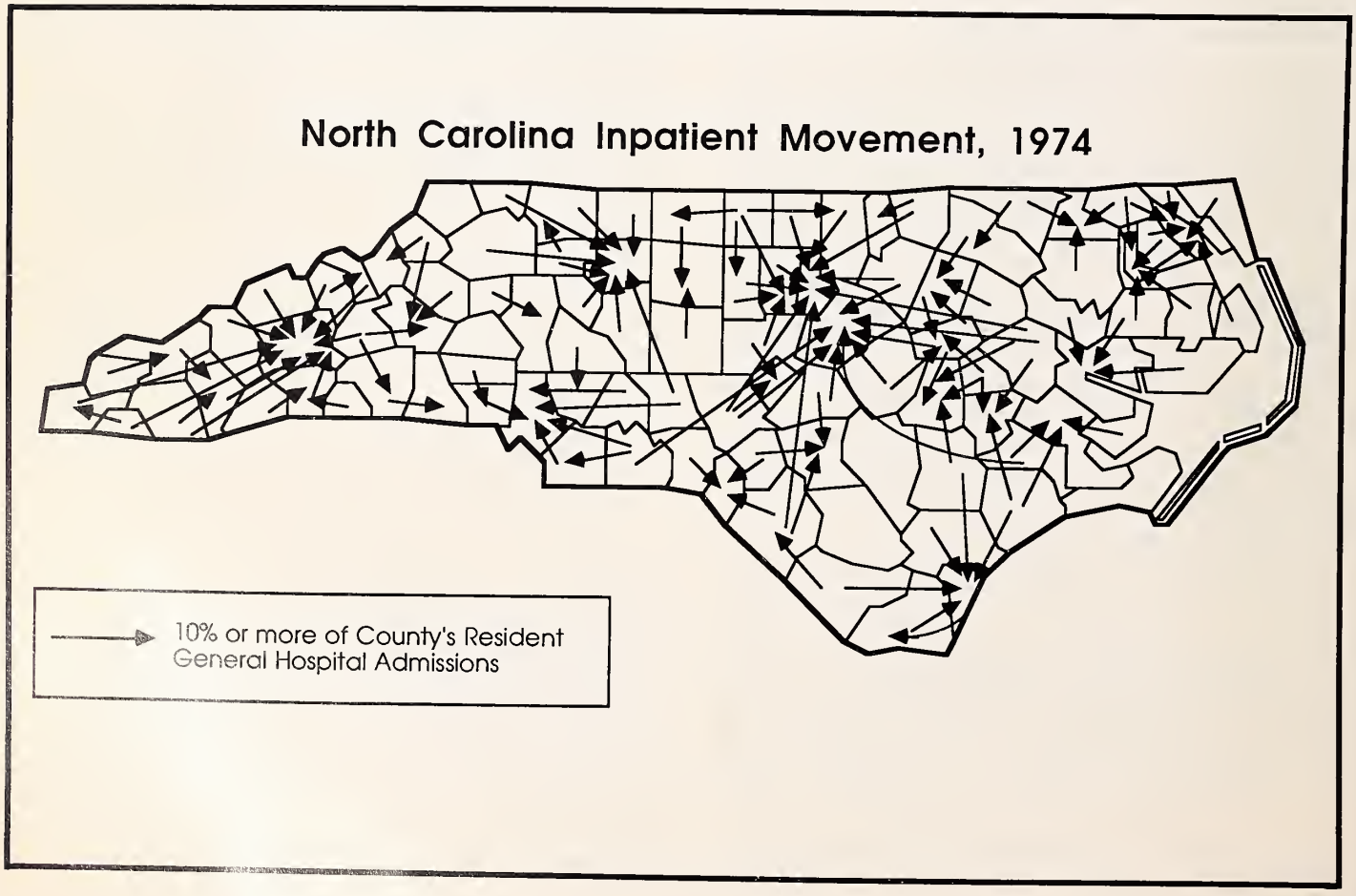


Figure 3

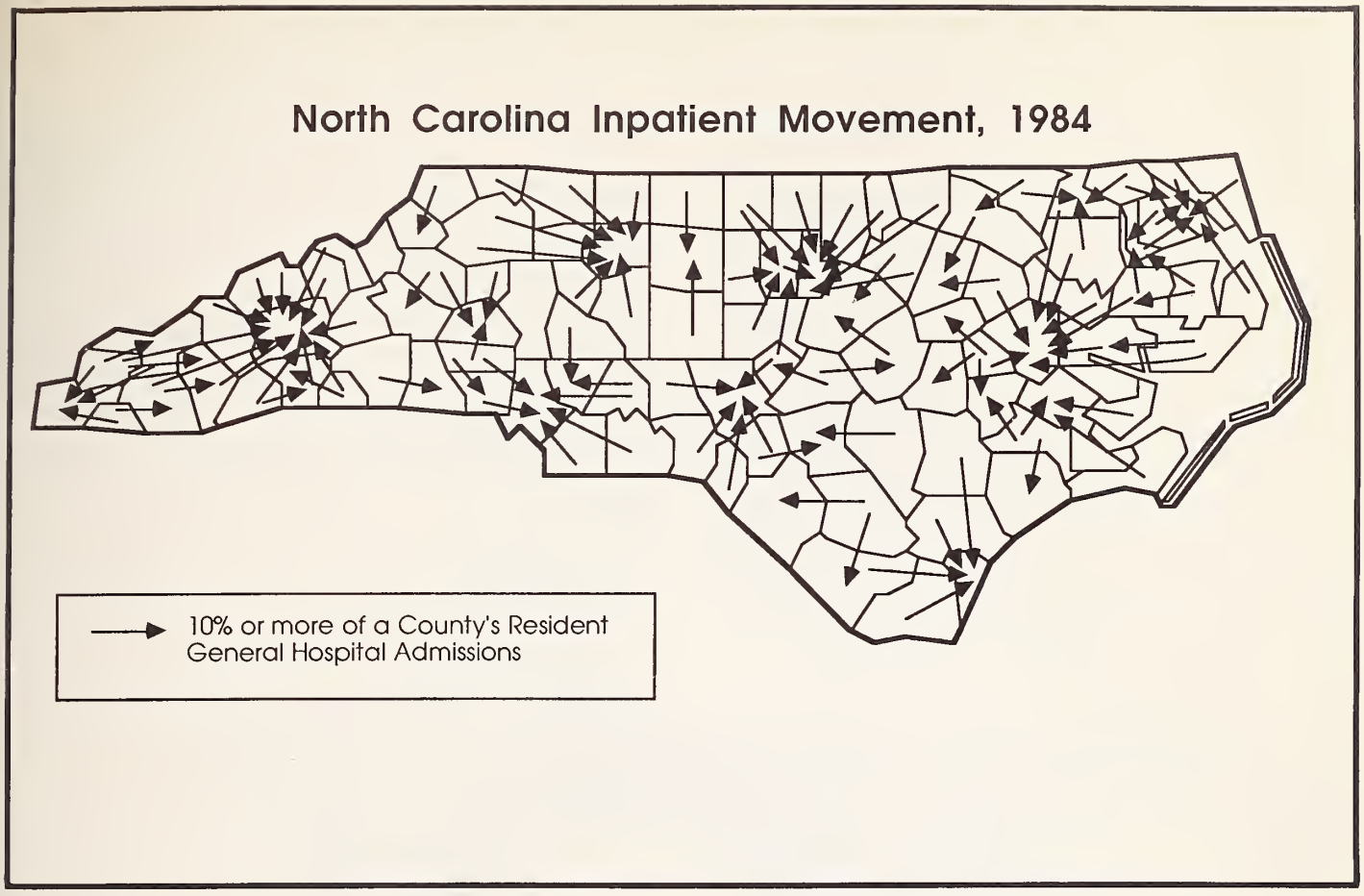
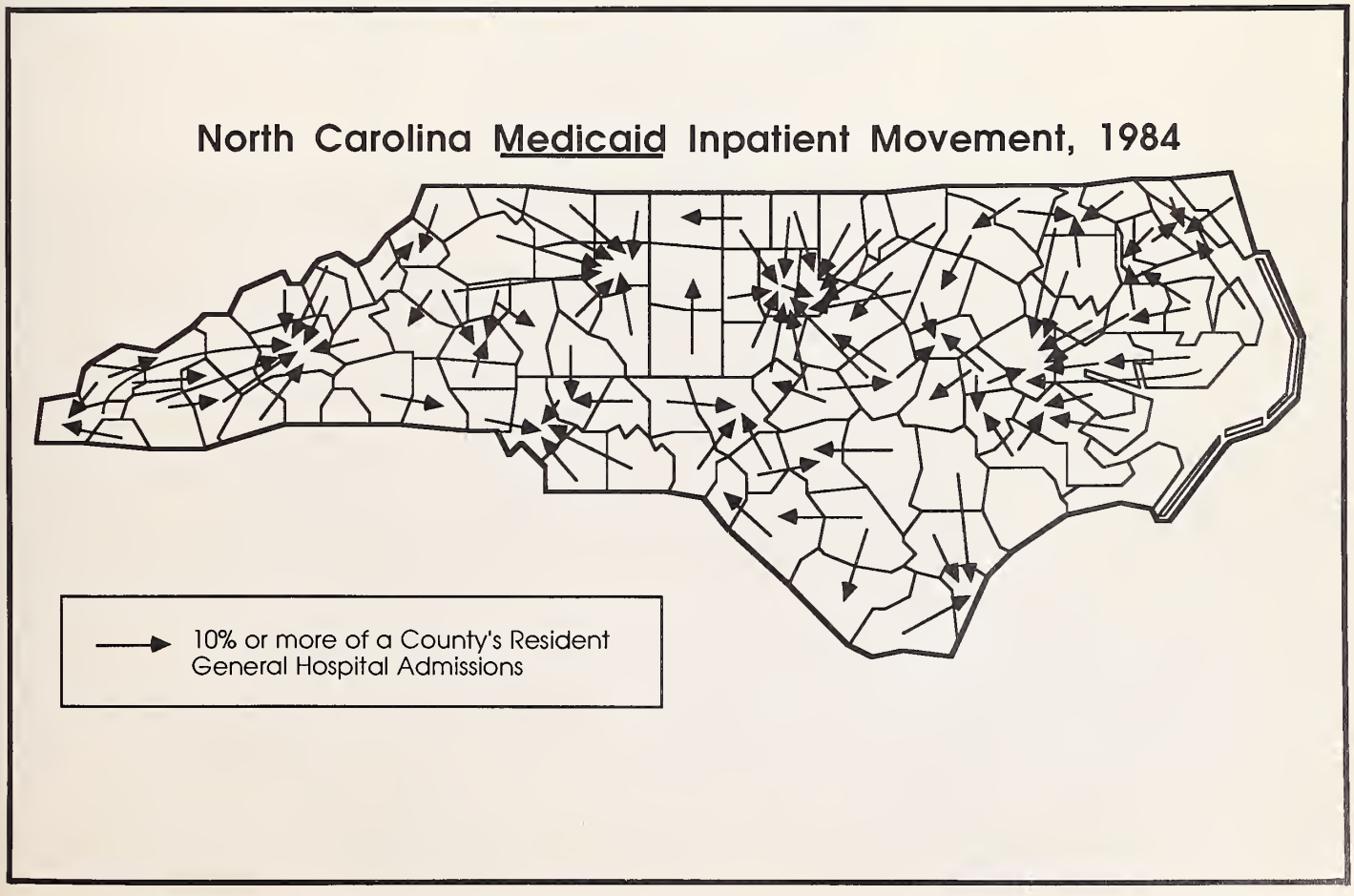


Figure 4



By 1984 the pattern of cross-county movement returned to a more "rational" distribution, although the volume of movement remained the same. The opening of the state's fourth medical school at East Carolina University, and the enlargement of the Pitt County General Hospital to include a wider range of clinical specialties and services, made Greenville the focus of a growing referral pattern. The central role of the hospitals in Wake County with regard to cross-county referrals appears to have diminished while a distinct service area appears to have been growing around Moore county. By 1980 there was an emerging concern that the pattern of referral and admission for Medicaid patients may have diverged from that of the general inpatient population which the first three figures depicted. The availability of patient origin data for Medicaid inpatients allowed for the same geographic analysis of that sub-population of inpatients for comparisons. Figure 4, which is based upon the same parameters as the other maps but restricted to patients for whom the Medicaid Program paid hospital bills, indicates that the pattern for Medicaid inpatients is much the same as for the general population, with few exceptions.

Analysis for the Future

The geographic analysis of patient movement is important in the description of service areas for planning and marketing purposes. However, in the absence of any centralized health planning apparatus, the decisions made in planning and marketing are made in, and applicable only to, the individual hospitals and hospital authorities; each will use this type of information to strengthen its individual market position. With the growth of outpatient-oriented medicine concentrated in health-maintenance and similar kinds of organizations, the next step is an analysis of the medical market areas in North Carolina with a focus on outpatient movement. Unfortunately, data for such an analysis are not yet available.

North Carolina does appear to have a market-based, regional hospital system clustered around seven or eight central places. That regionalization has only become evident in the past decade, after the enthusiasm for regionalization has died, unlikely to be revived in the near future.

References

1. Greene SB, DeMaria WJ. Hospital utilization in North Carolina: three years of decline. NC Med J 1986;47:77-81.
2. Planning for change: new directions for health planning in North Carolina. Chapel Hill: Health Services Research Center, University of North Carolina, April 1976.
3. Blakely EH, Cobb-Wall T, et al. Geographic distribution of the medically uninsured poor and of inpatient care patterns in North Carolina. Chapel Hill: Departments of Social and Administrative Medicine and Political Science, University of North Carolina, March 1986.
4. Smith HL, Hallman S. Health care resources. In: The North Carolina Atlas, James W. Clay, Douglass M. Orr, Jr., and Alfred W. Stuart, eds. Chapel Hill: The University of North Carolina Press, 1975, p. 275.
5. Ibid.

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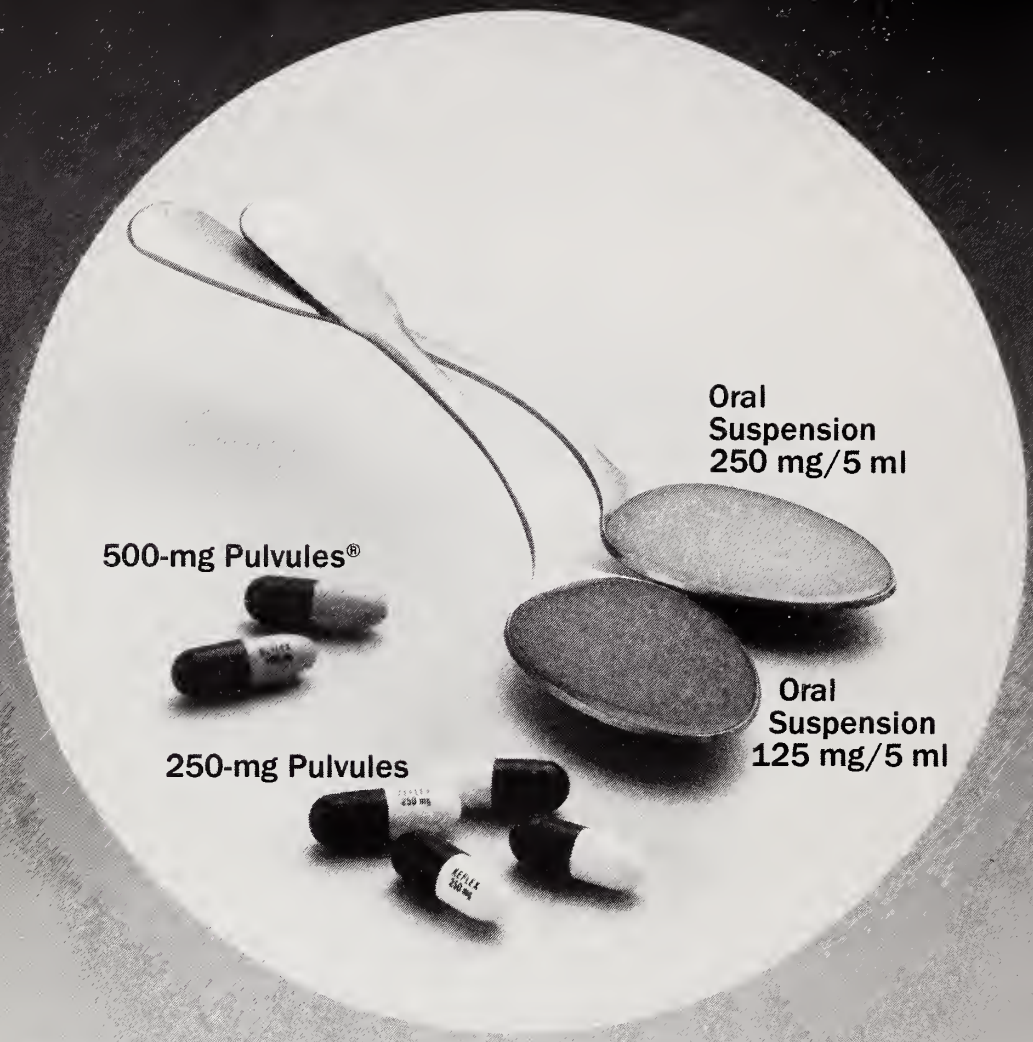
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SPECIAL ARTICLE

Talking Sweet Reason: Some Optimistic Thoughts on the Future of Health Care

J. Alexander McMahon, J.D.

Present-day Hospitals

Everybody knows that inpatient hospital activity is down. I don't know whether it will go down further, but I know there is a great deal of variation in admitting practices throughout the country. If you look at the days of care per thousand people in southern Idaho, for example, it is vastly different from and lower than the rest of the country. We can't explain it. We see variation even within an institution. Some doctors just hospitalize differently from others.

If admissions are going down, it's not because payors won't cover needed care and quality is suffering. It's because some folks traditionally hospitalized don't need to be in the hospital. I am not going to guess where the admission trend will go in individual institutions. A lot depends on where you are and the institution. Duke Hospital hasn't lost in percentage of admissions as some of my friends in the rest of North Carolina have, for instance.

I think we ought to prepare in the future for a continued reduction in inpatient days, not completely offset by growth of population or of the elderly. I just see inpatient utilization continuing to drop, largely because of a drop in length of stay, but also because of an overall drop in admissions.

But if inpatient activity drops, it doesn't mean that health activity is dropping. At the American Hospital Association, we've got excellent inpatient hospital activity statistics. We don't have the same kind of trackage on outpatient activity, but I've a very strong sense that, while inpatient surgery is down, surgery as a whole is not. More surgery is being done on an outpatient basis.

That's not due to diagnosis related groupings. DRGs include absolutely no incentive for reducing admissions. As a matter of fact, there is every incentive for increasing admissions, yet that's not happening. Therefore, something more is going on than DRGs.

I think the increase in the number of physicians is the first influence. Changes in employment-related health insurance are number two, and DRGs are number three. Hospitals taught doctors about one-day surgery. Now, the doctors appear to realize, "Well, if I can do ambulatory surgery in the hospital, why can't I do it in my office?"

From Duke University Hospital, Department of Health Administration, Durham 27710. Based on a talk delivered in November 1985, when author was president of the AHA and chairman emeritus of the Board of Trustees of Duke University.

Many changes in the environment are bringing about very marked changes in the delivery of health services. They are giving different incentives to this system, particularly for patients to demand that care be given a little differently. So health services are still being delivered, and the total is still increasing, but those of us who traditionally have focused on the inpatient side need to think of services more broadly.

Another significant factor in the hospital area is the rapid increase in the number of elderly, particularly the old old, who are over 85. They consume substantial health care services, but not always necessarily on the inpatient side. You don't have to cogitate very long to understand the possibilities of an elderly couple, both past 85. One passes away. The other one may not need health services in a hurry in the traditional sense, but he or she may need some kind of homemaker or other support services.

If your hospital has a home health program, why not a health *and* homemaker program? Hospitals already have management skills and a lot of skilled people, including dietary and housekeeping. Yes, inpatient care is dropping, but there are many other opportunities to render services. I'm not talking about making money, although you've got to make money to survive and keep institutions open. But there are needs for services, and who better to fill those needs, to my way of thinking, than the hospitals? I don't think we're going to lose control of health care services if we meet community needs.

Health Care Systems of the Future

I suspect we're going to continue to see all kinds of differences in control lines, organizations, conglomerates and so on in health care systems of the future.

The investor-owned hospital segment is not growing. Investor-owned hospitals by ownership have been steady at 750 acute care hospitals for 15 years. What is growing is the investor-owned chain. Much of the growth of the chains has been from originally independent, doctor-owned hospitals. There has not been a great movement in not-for-profit or public hospitals turning investor-owned.

What is happening is multi-organizational development beyond hospitals. Some of it is blatant protectionism. If I tie up with others, they can help me and I can help them. Besides, we can sit around and talk and worry together. There *is* a rapid growth in multi-organizations. The interesting thing is there is more rapid growth in the not-for-

profit arena than there is in the investor-owned; for example, Sun Health, Voluntary Hospitals of America, American Healthcare Systems, Lutheran Hospitals and Homes Society of America in Fargo, North Dakota, etc.

With all the changes, we still have absolutely stable ownership of roughly 6,000 acute care hospitals — 3,300 not-for-profit, 1,700 publicly-owned, 750 investor-owned, and about 350 federal — Veterans Administration and military. With the ownership steady, the change that is going on is the development of these multi-organizations, alliances and so on. The health care system is becoming more interrelated, not only by ownership but by alliances of various kinds.

There are many similarities between not-for-profits and investor-owned. I see more differences within each of these segments than I do between them. I see some inappropriate entrepreneurial activities among some of my not-for-profit constituents, and I see some very community-oriented activities among some of my investor-owned constituents.

Look at the situation at Duke University. Duke is obviously not investor-owned. But the bond-holders from whom Duke borrowed $100 million are looking at the Duke Medical Center to make very sure not only that interest and principal are being paid on time but that there is a sufficient margin to assure that they'll be paid next year and the year after that. They insisted on some triggers that, if Duke didn't make the required bottom line, would provide that security. Obviously, it's a different magnitude of bottom line than if Duke were investor-owned, but it needs a positive bottom line. The administration must run the place differently from the way it used to because it is getting money from the same kinds of capital markets that the investor-owned hospitals are. There are still some different kinds of requirements involved: stock-holders always have a bigger risk than bond-holders. But when not-for-profits moved away from Hill-Burton money and donations and went into the capital market, they needed to pay more attention to a record of revenues in excess of expenditures.

Ownership is not an all-important distinction. I see us all needing attention to revenue to assure appropriate access to capital markets, if we're to continue to grow. I think we are going to see some multi-institutional alliances using their broader asset base to provide capital market access. And because there are bright prople throughout this system, they'll find other ways for independents, too, to assure access.

In examining the future health care system, I think that health care is bound to move more rapidly into capitation. Government, business, and even state agencies dealing with indigents are seeing and believing that a single price that covers the whole range of services — physicians, inpatient, outpatient, follow-up care, and so on — has better incentives than fee-for-service health care. They have been aided and abetted, of course, by the siren singers of capitation — Paul Elwood, Walter McClure, Clark Havighurst, in part, and Alain Enthoven — all of whom encourage appropriate incentives for the payor, the provider, and the patient.

An interesting thing about capitation is that this is one place where provider control can be recaptured. Kaiser-Permanente, father of all HMOs, is provider-controlled: Permenente Medical Group on the physician side and Kaiser Hospital System on the hospital side. In the capitation area, you don't need a carrier. You will need some skills that hospitals don't traditionally have, such as marketing and actuarial and pricing skills, but you can acquire them in-house. I see great interest in capitation by business. If we're moving to capitation, hospitals will need additional skills. If we're moving to managed care by carriers, they must develop some skills that they have never shown before, including the ability to take some of those differences between practice patterns and straighten them out.

The Challenges of the Future

What are the things that will influence success in the future? Three things: federal government policy; local government action; and insititutional practices.

National health policy is in an absolute shambles and I don't see it getting any better for at least the next four years. All congressional decisions are budget-driven and deficit-driven.

We've written a record in this country that is absolutely marvelous in dealing with crises. Look at the crisis that faced Social Security and brought about some remarkable changes in 1983. We don't deal with non-crisis situations nearly as well. We don't, unfortunately, have a real crisis in the health care world, either in Medicare or in Medicaid, so what we see instead is a political game.

The Congress of the United States doesn't want to admit that it over-promised elderly people in Medicare. Congress prefers to squeeze the doctors and the hospitals. Government knows that, with all the reduction in patient activity, the hospital field is in better financial shape than it's ever been. Even with the reduction in annual increases in expenses from 15 to five percent, many hospitals have the strongest bottom line ever. But that's the average. Many hospitals are in different shape. Again, it's the old story. You can drown in a river whose average depth is six inches.

I think we're going to see some additional government attempts to squeeze. Over the last couple of days, I've been figuring out how we can escalate the attention of key leaders to our problems and the future implications of these squeezes. Obviously, there's nothing secret about the best method. It means identifying hospital people with ties to congressional leaders.

The second area of challenge for the future is state and local government and the community. If the federal government is retiring from its large role in health care, we'll find more and more need for action at the state, county, city, and community level. Providing care for the indigent and the uninsured is the biggest single problem for health care and hospitals. When you look, you find that the uncompensated care hospitals give often goes to workers or dependents of employed people, who just don't have health insurance. Well, that may be a community-level problem. There certainly won't be a vast federal program. So we must do some better work in the local area. It means being involved with the business coalitions. It means being involved with political figures, making them more aware of what hospitals are doing.

The final area of challenge, and the key to success, is really the institution itself. I believe that here is where the real issues are to be resolved. I have a very strong feeling that because we're bright, we can solve some of these problems ourselves. It will, however, take a better internal environment than we've ever had before. I'm not sure that we've done the greatest job in all the world in explaining the roles and responsibilities of governance, management and medical staff. There is some thrashing around now to apply business principles to hospitals, and we have a good debate raging as to whether or not business ethics are applicable. I tend to think they are, but they must be applied a little differently. You have to remember what a complex institution a hospital is. It isn't like a typical business organized in a pyramid from the CEO on down. We're not even sure what role the medical staff plays: are the medical staff physicians the purchasers of hospital services? Whatever they are, they are very important, and I don't think hosptial CEOs have done the best job of creating good relationships with the medical staff.

Let's look at the similarities between the hospital and the educational institution. Each has complex relationships among governance, administration, and staff. Universities have faculties, students, and alumni; hospitals have medical staffs, patients, and communities. From my observation, educational institutions are a little easier to govern and manage; I'm not sure why. Yet many educational institutions do not do any better in dealing with the faculty than hospitals do with the medical staff.

A good hospital-medical staff relationship will be extremely important for success in the future. It means getting a group of people who are uncertain about the future themselves — the doctors — and involving them in decision-making. Board members are restless, wondering, "Where is this institution of which I am a board member going?" Administrators wonder, "Will I have a job in a year?" And doctors ask, "Will I be able to treat my patients without interference?"

Successful hospitals maintain good internal relationships that are oriented to what they can do together to serve the community. Where that is the goal, the institution is not only surviving, it's thriving. With drops in occupancy of 20 and 25 percent, they're working together to provide non-inpatient services. They recognize that the locus of care may change, but patients haven't changed. People continue to need appropriate health care.

I look to the future with a great deal of confidence. We have the best health care system in the world. It was made good, made excellent, made the best by the dedication of physicians, by the dedication of administrative people, and by the dedication of all those board members whose efforts, attention, help, advice, and direction we've captured. And, yes, it's going to be different. I thank the good Lord. If it were going along smoothly, they wouldn't need you. So whatever happens, it is well that we are challenged, but we are up to the task, I assure you.

Questions

Q. In what ways might the Veterans Administration System change?

A. Let me broaden the question and say the government system, because I look at it in two different ways. We have had some discussions with the VA as to how they might use a civilian system whose occupancy is declining. The discussions are on hold right now because one other piece has to fall into place. The Administration says we need a means test for veterans over 65 the way we have for veterans under 65. What we have now in the VA system is a priority order. First, the veterans with service-connected disability treated for a service-connected problem. Second, service-connected disabled people with any kind of problem. I don't think government's dedication to the care of those people will wane. Third, indigent veterans. Below 65 there is a means test, but today anybody over 65 is considered to be indigent under the VA priority.

The two biggest DRGs in the VA now are schizophrenia and drug addiction-substance abuse. I heard the head of the VA say the other day, "We're becoming a system, in large part, of chronic disease hospitals." That's a different kind of care than lots of my constituents perceive when they talk about capturing some of these people.

The Department of Defense hospital system is vastly different. And there may be some real opportunities. A few weeks ago, Secretary Weinberger, followed by Bud Meyer, the Assistant Secretary of Defense for Health Affairs, stated that the military medical system needs to concentrate more on military medical readiness, not on providing a peacetime medical care system for dependents, retirees, and dependents of retirees.

Questions arise on how to keep the surgeons and the anesthesiologists and the nurses medically ready. We may have to find some ways to pull them into the civilian system. Then we have problems. They have problems. What are we going to do about the number of house staff they have? They don't know about that either. My guess is that they may have moved a little too fast.

But if the system is going to be down-sized, and the peacetime mission is put aside, then we are dealing with the kind of population that civilian hospitals are used to. More use of the civilian health care system would be a good way for the country, I think, to move. The Air Force particularly has an isolated base problem and care there may include some better use of reserves for military readiness. We are going to explore that use, and we will continue to explore the VA system.

Q. What is the magnitude of uncompensated care?

A. Estimates vary. If you're talking about all the uninsured, including some on Medicaid, you're talking about 35 million people. Out of 250 million total population, that's somewhere in the 15 percent range. It's not a large consumer group of health care services.

Nevertheless, we have to deal with uncompensated care for the indigent and those on the margin of poverty. It is our Achilles' heel in a competitive system when business and the federal government are trying to cut back their involvement in care costs for other than their own recipients. Obviously, demands for containing cost and taking care of indigent people at the same time put strains on the institution. But society will not allow people to go uncared for because of economic circumstances. As long as that

problem is there and festering, it can give rise to a resurgence of support for national health insurance.

You have to keep in mind that we have universal health insurance — for all intents and purposes — covering 85 percent of the people. If we work at the community level, we could get that figure to 90 or 95 percent. We have Medicare, we have group health insurance. We do have a declining Medicaid program, but at least we have access for most people. And you don't mess up a system that's working well for 85 percent for the other 15 percent. That is why, I think, national health insurance went by the board. I also think there is a recognition that the system today is changing in the right direction or at least changing in enough different directions that some of them must be right.

I see a great variation of change in the South and in the Midwest — HMOs, PPOs, different kinds of arrangements. I was in New York recently, and I was amazed that nothing much seems to be going on there. Why? Because that system has been so intensely regulated that the whole energy of the system is devoted to coping with regulations instead of delivering services to people. I think there is a recognition that, if we tried a universal single system, it would be an absolute mess. I see no interest any more; even the AFL/CIO has put it on the back burner. What may happen, however, and what we're seeing in South Carolina, Florida, California and elsewhere, in order to deal with the indigent care problem, is the states getting involved. So far, some of those systems seem to offer some hope of dealing with the problem.

Q. Will we reach a point where we have 15 or 20 systems providing all health care?
A. I doubt it. If we shrink to 15 or 20 systems, is Duke to be one of them? I don't see Duke wanting to lead one and I don't see Duke involved as part of one of the 20. I don't think the community-oriented trustees would be interested. I don't think that the medical profession, even in 20 or 30 years, will be ready to subject itself to that kind of discipline. What I see instead are these alliances that I mentioned — a loose confederation working together. I thought 13 years ago, when I went to Chicago, that we were about to embark on the new wave of alternative delivery systems that we're seeing today. It didn't happen. It wasn't until business became involved and interested in capitation, and the number of physicians increased sufficiently, and Medicare changed incentives, that we began to see change.

Health care is too localized a service delivery system. We don't have 15 or 20 bright enough people to run these 15 or 20 systems. Weve got several thousands to deal with it on a more localized basis. I don't think those simple solutions are going to happen. It just isn't the American way of doing things.

Q. What is the future role of the American Hospital Association?
A. Three years ago, we went through an exercise to analyze whether or not AHA was positioned appropriately to provide services to a changing hospital constituency. We concluded we weren't. The House of Delegates was dominated by delegates selected by the state hospital associations, who generally came from the large 300-400 bed institutions in the not-for-profit sector. Some parts of the constituency were not being given adequate attention, and they felt they weren't being given adequate attention. So we created some seats in the House for multi-organizations, created some seats for the small or rural hospitals, created some seats for the metropolitan hospitals (the big public hospitals like Cook County and Bellevue in New York, and Charity in New Orleans, and the tertiary care hospitals). In addition, we've created some special sections, not for representational purposes but for service purposes. As hospitals get into home health, ambulatory care, long-term care — what can we do to help them?

The decision was made then to remain the American Hospital Association instead of the American Health Care Association. I think that was wise because, if we and you all do our jobs right, the hospital as it exists today will be the hub of the delivery system. Our job, then, is to help all of our constituents learn how to take advantage of that hub activity. As the locus of skilled people, hospitals can organize a continuum of care, including those services moved outside the hospital walls, such as health education and pre- and post-admission care. Some of the organizations don't think of themselves anymore as being even hospital-oriented. They are delivering care and looking to a furture in which they will deliver more ambulatory care than inpatient care.

Writers in our magazines comment about how you deal with some of the new kinds of issues. How do you deal with marketing? How are you going to develop a new service? How are you going to price it? What kind of payment should you receive? How do you deal with the physicians? How can you develop a capitated system? How can you pay physicians without running into ethical pressures about rewarding them for not providing professional services?

We are trying to adjust to a competitive world where our constituents are no longer ready or able to sit down and work together. What they are doing is looking at one another, asking, "How can I beat the guy down the street?" or "How can I assure patient flow here to this institution or to this group of providers, including the medical staff?" But if we were to focus too much of our attention on that, then what would we do about the vastly greater numbers of hospitals that aren't to that point as yet?

It's very much a changing world and, I suspect, one of the things that is going to confront my successor head on. Top staff of AHA are meeting to revisit our mission at AHA. Who are our constituents? Are we continuing to serve them adequately? We've had a very constant membership of about 85 percent or higher of the hospitals. The ones we missed, for the most part, were small. But we kept that high membership because we have been changing as the constituency has been changing. We have to continue to do so.

Q. What about paying costs for those unable to pay?
A. I think it's going to have to come from all kinds of places. For the uninsured employed, we may have to figure out, with the carriers, a benefit package that will be lower in coverage and lower in cost and may be in that way

attractive, if not to the employer, to some of the employees. It may take some sharing through underwriting practices, a subsidy if you like. Some of it will continue to come from cost-shifting in the hospital, just getting enough from the paying patients to cover uncompensated care for the others.

Whether we're going to see more of the Florida and South Carolina "tax-the-provider" approaches, I don't know. It'll be interesting to watch how those work. Four or five years out, I think we'll see more state and community activity. That's where we must get our business friends involved to understand the community responsibility for taking care of the least advantaged members of society. So you can list ten sources and say all of the above.

Q. How will graduate medical education be affected?
A. We're going to see some reduction in Medicare graduate medical education payments. There are some candidates for reduction: elimination of funding for foreign medical graduates, for example. Of our 70,000 plus house staff in teaching hospitals today, probably 20,000 are foreign medical graduates. An ever-declining percentage of them are foreign-born. An increasing percentage of American foreign medical graduates are from "off-shore" medical schools, and some question the education they are getting.

Another method suggested in Congress for Medicare reduction is limiting the Medicare payment for a resident to the number of years for the first board eligibility or five years, which ever comes first. This method is designed to eliminate subsidy for subspecialty training. What it shows is the depth of feeling in the Congress about the inappropriateness of using the Medicare Trust Fund to provide subspecialty training for people who are going to make a lot of money. They say, "Why provide government financed scholarships to people who are going to make $200,000 a year? They ought to be able to take care of that on their own."

So there is a lot of thrashing around. The system isn't understood. This great, great system we have grows out of a lot of specialty training. It's my feeling the more we can keep government out, the better off we're going to be, because they are bound to make matters worse. What they will do is give us incentives to change things around so that we don't have the same process of training first in general medicine and then in specialties and subspecialties. So I don't know. The funding is vulnerable, because it represents a big amount of money to the government.

But let me tell you the good news. The good news is that regardless of what they do we're going to keep right on providing a first-rate education for physicians and specialty training too. If we have to find some other ways to do it, we'll do that too. I'm not sure that I can see how just yet, but I am confident we can.

My attention right now is focused on fighting major changes in what we're doing and I don't know how successful we'll be. But we're not going to see teaching hospitals fade away, and we're not going to see deterioration in graduate medical education. And we aren't going to see rapid increase in the primary care delivery people, because not all students are interested in that field. □

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Eosinophilic Granuloma: I Need This Like a Hole in the Head

David Darrow, D.D.S., and Mark Linzer, M.D.

• *Headaches do not usually warrant skull radiographs, but when the patient has a headache* and *point tenderness, a skull film may tell the whole story.*

HEADACHE is a common symptom; it is often the stimulus that brings a patient to the attention of a physician. Most headaches are attributable to muscle contraction, vascular disorders and conversion reactions. The diagnosis can usually be made by history alone. Radiologic and laboratory evaluation are indicated, however, when conservative therapy is ineffective or when signs and symptoms suggest an insidious or potentially serious pathological process. Recently, we were referred a patient with persistent headache and point tenderness over the painful area. Her x-rays revealed a surprising finding — a well-defined, solitary lytic lesion of the skull.

The "Hole" Story

The patient, a 37-year-old native of North Carolina, presented to her physician with a three-week history of left-sided headache. The headache was gradual in onset and was not associated with any precipitating or exacerbating factors. Initially the pain was dull and diffuse, but after several days the patient was able to localize a sharper pain superior to the left mastoid process. Over the three-week period, the pain increased in spite of self-medication with aspirin, and she sought the care of her doctor.

On examination, the skull was tender to palpation over the affected area. Possible mastoiditis was diagnosed, and the patient received prescriptions for ampicillin and an analgesic. Three days later, she returned to her physician with worsening pain. A skull radiograph showed the mastoid air cells to be unremarkable; however, a lytic lesion was noted in the left parietal area. The patient was sent to Duke Hospital for evaluation of the lesion.

At the time of her admission, our review of systems revealed no evidence of malignancy, brain abscess, meningitis, ear infection, trauma or congenital bony defects. Specifically, the patient denied any history of fever, chills, nausea, vomiting, trauma to the head, seizures, pain with mastication, ear pain or discharge, tinnitus, skeletal pain, abdominal pain, breast disease, or weight loss.

Physical examination was remarkable only for moderate tenderness to touch in the area of the left mastoid process without a palpable mass. There was no lymphadenopathy to suggest infection or malignancy. A normal neurological examination indicated that involvement of the brain and meninges was unlikely. Laboratory data, including complete blood count with differential, electrolytes, urinalysis, electrocardiogram and chest roentgenogram, were all normal.

The Picture Tells the Story

With headache and point tenderness as our only remarkable features, we turned to the lateral skull film for further diagnostic information. The film revealed a solitary, well-defined "hole in the head" measuring eight millimeters in diameter and located in the intramedullary space of the posterior temporoparietal region (figure 1). This finding correlated with the site of point tenderness on clinical examination. The radiograph allowed us to narrow our primary differential diagnosis to a venous lake, an intramedullary dermoid tumor (a benign intracalvarial inclusion of epidermoid tissue), a dermoid cyst and eosinophilic granuloma. However, metastatic as well as primary intracranial malignancies were also diagnostic possibilities.

We then ordered a brain computed tomographic scan, which excluded any intracranial mass lesions. A radionuclide bone scan showed no evidence of other lytic lesions; the only area of increased activity was at the site of the skull lesion.

Making the Diagnosis *Is* the Treatment

The patient was taken to the operating room for biopsy of the lesion. The surgeon found a small bony defect filled with a pinkish-gray soft tissue. Pathologic examination of the tissue revealed large collections of plump histiocytes with normal round nuclei interspersed focally with collections of eosinophils — findings diagnostic of eosinophilic granuloma. The surgical site was then curetted, irrigated, and patched. The patient was discharged in good condition on the first postoperative day. One year after surgery, the patient continues to do well. She has had no further pain and has developed no new bony lesions suggestive of recurrent eosinophilic granuloma.

From the Department of Medicine, Duke University Medical Center, Durham 27710.



Figure 1. *The lateral skull film, with the arrow indicating the location of the "hole in the head" superior to the mastoid process.*

While the differential diagnosis of osteolytic lesions of the skull is extensive (table 1), numerous entities can usually be eliminated simply on the basis of history, physical examination, and radiographic appearance of the lesion on plain films.[1] Lesions of eosinophilic granuloma will exhibit well-defined borders with a beveled appearance, correlating with the different levels of bony destruction. Patients with defects, cysts, hematomas, and infections of the calvarium usually give a history of head trauma or prior surgery. Distortion of the skull and a characteristic "ground glass" radiographic appearance with accompanying sclerosis suggest the diagnosis of fibrous dysplasia. Paget's disease is suspected when the history includes a change in hat size, and it is often confirmed by laboratory studies. In metastatic disease and multiple myeloma, there are usually multiple lesions with more poorly-defined margins. Meningoceles and encephaloceles are characterized by a midline occipital defect, while normal anatomical variants (including emissary channels, Pacchionian granulations, and parietal foramina) usually occupy a parasagittal position in the parietal region. A cavernous hemangioma has a typical "soap bubble" appearance due to bony spiculation. Rarely, a slow-growing glioma or other brain tumor may cause a single bony erosion, but these are usually accompanied by neurological changes and calcification within the lesion. Biopsy was necessary to distinguish between these diagnostic entities. Furthermore, if eosinophilic granuloma were the correct diagnosis, excisional biopsy with curettage is usually curative.

A Disease of Histiocytes

Once included in the spectrum of diseases known as histiocytosis X, eosinophilic granuloma (EG) now more appropriately denotes a benign solitary disease of bone.

Table 1
Differential Diagnosis of Solitary Lytic Lesions of the Skull

Eosinophilic granuloma
Multiple myeloma
Metastatic disease (e.g., breast carcinoma)
Bony defects, cysts (e.g., dermoids), hematomas
Osteomyelitis
Fibrous dysplasia
Paget's disease
Meningocele/encephalocele
Emissary channels, Pacchionian granulations, parietal foramina
Brain/meningeal tumors (rare)
Arteriovenous malformations (rare)
Cavernous hemangioma
Venous lake
Intramedullary epidermoid tumor

The Hand-Schuller-Christian eponym is presently reserved for multifocal cases of EG. Patients with this disease may present with all or part of the classic triad of exophthalmos, diabetes insipidus, and bone destruction. The Letterer-Siwe syndrome, another of the histiocytoses, is a disease of infants characterized by lymphadenopathy, hepatosplenomegaly, bleeding diatheses, bone and skin lesions, and an exceedingly high mortality rate. The common pathologic lesion in all of these diseases is the proliferation and infiltration of tissue by histiocytes which fuse into Langerhans giant cells. These cells are believed to cause a local eosinophilia by releasing chemotactic factors that attract eosinophils.[2]

EG is a disease of children and young adults with a slight predilection for males. It usually presents as a solitary osteolytic lesion of a long or flat bone (most commonly the skull and femur in children and a rib in adults) with pain and tenderness around the affected site. The skull is the most frequently involved area in unifocal EG,[3] and therefore it is not unusual for patients to describe these local symptoms as headache. Since 90% of patients with unifocal skull lesions of EG will also present with a palpable mass,[3] physicians caring for such patients will suspect that the headache is an unusual one and will pursue further diagnostic studies. Our patient did not have a palpable mass, but the unilateral nature of the headache in association with point tenderness alerted her physician to the fact that this was not a "routine" headache.

Patients with EG will usually have normal laboratory studies. Occasionally, there will be an elevation in the eosinophil count, erythrocyte sedimentation rate or immunoglobulin level. Diagnosis is usually suggested by plain film radiography as in our patient. Computed tomographic scanning aids in revealing the extent of individual lesions and the presence of associated soft tissue lesions. Bone scan will confirm that the lesion is unifocal and establish a baseline for follow-up studies. Definitive diagnosis, however, is made by excisional biopsy. The description of the pathology in our patient is typical of the disease.

Initial treatment of all lesions of EG is by curettage at the time of biopsy. Low dose irradiation of weight-bearing bones is usually suggested, but there is no evidence that irradiation of skull lesions improves the extraordinarily low recurrence rate obtained by surgery alone.[3] Recurrences, when they do occur, are most common in patients first presenting as infants or young children, and have been detected as much as twelve years after initial presentation.[3] It is usually recommended, therefore, that skeletal survey by bone scan and/or plain film be performed every six months for at least two to three years, both for detection of new lesions and for follow-up of the previously affected site.

William Heberden, in his *Commentaries on the History and Cure of Diseases,* remarked: "The nature of headaches is extremely obscure. Their manifest causes are very various and often contrary to one another. They probably therefore arise from different disorders. . . ."[4]

Persistent headache symptoms always demand close scrutiny. Although skull x-rays are rarely indicated in the pursuit of obscure headache, a palpable mass or point tenderness does indicate a need for skull films. The physician should not be too surprised if such films disclose a "hole in the head." In the case of eosinophilic granuloma, both headache and disease may be cured by making the diagnosis.

Acknowledgment

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References

1. Lane B. Erosions of the skull. Rad Clin North Am 1974;12:257-82.
2. Groopman JE, Golde DW. The histiocytic disorders: a pathophysiologic analysis. Ann Intern Med 1981;94:95-107.
3. Rawlings CE, Wilkins RH. Solitary eosinophilic granuloma of the skull. Neurosurg 1984;15:155-61.
4. Heberden W. Commentaries on the history and cure of diseases. London: printed for T. Payne by S. Hamilton, 1802, pp. 93-8.



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SCIENTIFIC ARTICLE

The Pseudo-False Positive Meckel's Scan

Marcus E. Carr, Jr., M.D., Ph.D.

• *A cautionary tale about interpreting Meckel's scans, the procedure of choice for confirming the diagnosis of Meckel's diverticulum.*

THE sudden onset of massive gastrointestinal bleeding in an otherwise healthy child or young adult should raise the possibility of bleeding from an ulcerated Meckel's diverticulum. Arising from an unobliterated yolk sac, this defect is the most common congenital abnormality of the GI tract. Due to its usual location, within 100 cm of the terminal ileum, this anomaly does not lend itself to fiberoptic detection. Likewise, standard barium contrast studies including upper GI, small bowel follow through, and barium enema are usually unrevealing. While enteroclysis — the direct injection of contrast material into the bowel — may be useful, the relatively simple and rapid 99mTc pertechnetate Meckel's scan, developed in the late 1960s, has become the procedure of choice for confirming this diagnosis.[1,2]

Both false-positive[3] and false-negative[4] results have been reported with this technique. The case reported here is of a healthy graduate student whose diagnosis was missed despite several Meckel's scans which, while positive, were only faintly so and were erroneously called "false-positive." The delay in diagnosis resulted in a second episode of life-threatening hemorrhage.

Case Report

The patient, 23 years old, first developed diffuse abdominal tenderness, post-prandial diarrhea, and bloating at age of 20. After two weeks of symptoms, she passed a large, dark red, bloody stool. In the emergency department, she was orthostatic (pulse rise from 90 to 140 upon standing) and anemic (hematocrit 29%, hemoglobin 10 mg/ml). She denied a history of melena, gastritis, peptic ulcer disease or inflammatory bowel disease. Physical exam revealed only minimal tenderness of the left lower quadrant. Stool was guaiac positive; coagulation screens were normal. Upper endoscopy failed to reveal peptic ulcer disease or gastritis, sigmoidoscopy was negative for hemorrhoids, and barium contrast studies of the stomach and upper small bowel were negative for mass lesions or inflammatory bowel disease. Polyps and inflammatory bowel disease were not found on air contrast barium enema. Her stools gradually became guaiac negative and her hematocrit remained stable at 29 without transfusion.

In a final effort to identify a bleeding site, a 99mTc pertechnetate Meckel's scan and a sulphur colloid scan were performed on the day of discharge. The one- through ten-minute films of the pertechnetate study revealed an area of increased tracer uptake in the right lower quadrant. Since the area appeared before and did not persist as long as the stomach activity, it was felt unlikely to be a Meckel's diverticulum. The sulphur colloid study was faintly positive, indicating possible bleeding, in the same area. Besides a Meckel's diverticulum, differential possibilities included leiomyoma of the uterus or bowel, or intrauterine pregnancy. A pelvic ultrasound demonstrated a normal uterus without evidence of pregnancy. A repeat Meckel's scan one week later again showed an area of increased uptake in the lower abdomen just superior to the bladder. Since the area of uptake corresponded to the position of the uterus on ultrasound, and the patient had recently completed her menstrual period, this was felt to represent normal physiologic uterine uptake, "Uterine Blush."[5]

The patient did well for three years but then had the onset of abdominal pain in the left upper quadrant. After three weeks of symptoms, she awoke feeling well only to note blood in her stool after painless defecation.

Evaluation in the emergency room revealed: blood pressure 150/100 mmHg, pulse 90 beats/min, and hematocrit 37%. There was no orthostasis. Sigmoidoscopy to 20 cm revealed guaiac positive stool above that point. While in the emergency room, the patient suddenly felt faint and became sweaty and pale. Supine blood pressure fell to 90/60 mmHg; she began to pass large quantities of maroon colored stool. Repeat hematocrit prior to hydration was 32%. Her blood pressure fell further to 70/60 mmHg requiring rapid fluid replacement (4L crystalloid given intravenously over 30 minutes).

Nasogastric aspirate was guaiac negative. Emergent sulphur colloid scan failed to reveal the source of bleeding. After transfusion of three units of packed red cells and two units of fresh frozen plasma her hematocrit stabilized at 36%. Colonoscopy, including visualization of the distal 10 cm of the terminal ileum, revealed normal bowel. Biopsies of the terminal ileum were normal. A Meckel's scan showed an area of increased uptake in the mid-abdomen below the umbilicus (figure 1). The image persisted for thirty minutes and was felt consistent with a Meckel's

From Department of Medicine, Medical College of Virginia, and Medical Service, McGuire Veterans Administration Medical Center, Richmond, VA 23249.

Correspondence: Medical Service (111K), VA Medical Center, Richmond, VA 23249.



Figure 1. *A fifteen minute image of a 99mTc pertechnetate Meckel's scan. An area of tracer uptake by ectopic gastric mucosa is seen in the mid-abdomen as indicated by the arrow.*

diverticulum of the small bowel. At laparotomy the diverticulum, found adherent to the underside of the umbilicus, was excised. Pathologic evaluation revealed gastric epithelium and Brunner's glands within the diverticulum and a focal area of ulceration.

Comment

Meckel's diverticulum results from failure of the omphalomesenteric duct to obliterate and occurs with an incidence of 1-2%. It was initially thought to cause a 25% complication rate, but Soltero, et al. found this not to be the case. They demonstrated only a 4% incidence of complication in children and young adults.[6] The rate decreased linearly with age and was virtually zero after 70 years of age. The most common complications are obstruction (31%), bleeding (25%), inflammation (24%), and perforation (12%). Yamaguchi et al. found bleeding to account for 11.8% of complications attributed to Meckel's diverticulum in a series of 600 patients.[7] Bleeding complications are much more common in children less than ten years of age, and represent the most common complication in this age group;[6] hemorrhage in patients over the age of thirty is extremely rare. Fifty-seven percent of symptomatic Meckel's diverticuli contain gastric mucosa,[3] the presence of which increases the incidence of bleeding.[7]

After pertechnetate was introduced for brain scanning in 1964, the tracer was noted to be selectively concentrated and excreted by the mucoid surface cells of the gastric mucose. Since pertechnetate is concentrated in gastric mucosa, and since ectopic gastric mucosa is known to occur in symptomatic Meckel's diverticuli (particularly those that bleed), Harden et al. suggested the use of pertechnetate as a noninvasive technique for diagnosing Meckel's diverticulum.[1] In 1981, Sfakianakis, reviewing the ten-year published experience, found the sensitivity to be 85% and the specificity to be 95%.[3] False-positives (2%) may be caused by the presence of ectopic gastric mucosa in gastrogenic cysts, enteric duplications, and duplication cysts. False-negative scans, the reported incidence varying from 2% to 50%, may result from necrosis of the Meckel's tissue, or from dilution of the dye by bleeding.[4] Modifications of the original technique have included stimulation of gastric mucosa uptake of technetium by pentagastrin, and increased mucosa retention of technetium by cimetidine.

Another potential cause of false-positive Meckel's scans, the uterine blush, was first reported by Burt et al. in 1981 when they noted uterine activity after injection of pertechnetate.[5] In a subsequent study, 73% of women with regular menses demonstrated a uterine blush during the menstrual or secretory but not the proliferative phase of the cycle. Burt et al. recommended ultrasound examination of appropriate patients to exclude uterine blush as the cause of low midline abdominal uptake.

Given the foregoing information, the initial management of this patient would appear to have been entirely appropriate. Nevertheless, she was discharged without a diagnosis and suffered a subsequent life-threatening episode of hemorrhage. The first Meckel's scan revealed a vascular area in the right lower quadrant, which also appeared very faintly on a sulphur colloid flow study. Since the ectopic activity did not persist as long as the gastric activity, this was felt not to represent a Meckel's diverticulum. Differential possibilities included leiomyoma of the uterus or bowel, or placental activity secondary to intrauterine pregnancy. An abdominal ultrasound failed to yield evidence of either of these possibilities. A second Meckel's scan performed during the patient's menstrual cycle once again revealed an area of increased uptake, this time in the area of the mid-pelvis. Comparison with the previous ultrasound study resulted in the conclusion that this represented a false-positive scan caused by uterine blush. These two scans actually represented either true positive or else false-positive/false-negative scans. In the latter case, falsely positive in the area of the uterus and falsely negative in the area of the diverticulum.

Given the lack of a diagnosis in this patient, one approach would be to repeat the Meckel's scan during the proliferative phase of her menstrual cycle (thus decreasing the likelihood of a uterine blush) while stimulating gastric uptake by pentagastrin and/or stimulating gastric tracer retention with cimetidine. Proceeding to enteroclysis would be a second option.

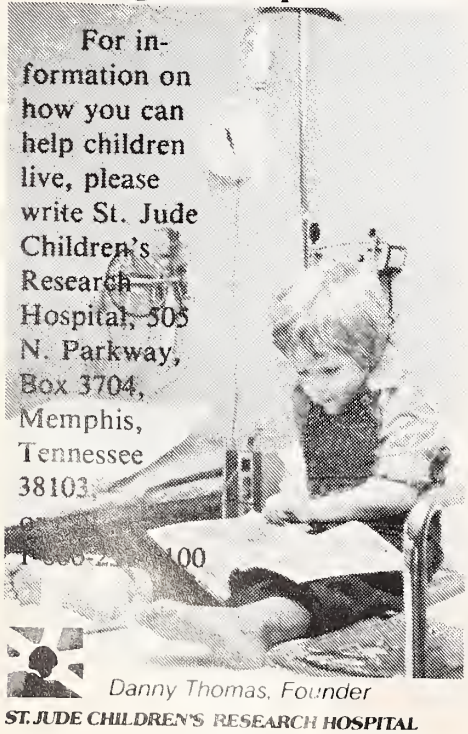
This case re-emphasizes several basic but often forgotten rules of medicine. First, patients do not bleed without a reason. If we accept the Meckel's scan as being falsely positive due to uterine activity, why did the patient bleed? Second, discharge without diagnosis may be more than intellectually unpleasant, it may be dangerous. Third, overreliance on technology may be a trap. One must be willing to question test results when they are at odds with one's clinical assessment. This is particularly true when, as in the present case, a test is "positive" but interpreted as

being negative — that is, a "false" positive. Fourthly, persistence has its virtues. In 1933, Charles Mayo wrote: "Meckel's diverticulum is frequently suspected, often looked for, and seldom found." The key to the evaluation may well be the persistence of the clinician and the extent to which he or she pursues the diagnosis. As suggested by Wilton et al., if you think the patient has a Meckel's diverticulum and the initial scan is negative, repeat the scan.[4] And if the test is "positive" in the right setting, it is likely that this is a "true," not a "false," positive; or, as eloquently stated by the late radiologist and educator Dr. George Himadi: "I'll see it when I believe it."

References

1. Harden RM, Alexander WD, Kennedy I. Isotope uptake and scanning of stomach in man with 99mTc-pertechnetate. Lancet 1967;1:1305.
2. Jewett TC, Duszynski DO, Allen TE. The visualization of Meckel's diverticulum with 99mTc-pertechnetate. Surgery 1970;68:567.
3. Sfakianakis GN, Conway JJ. Detection of ectopic gastric mucosa in Meckel's diverticulum and in other aberrations by scintigraphy: 1. Pathophysiology and 10-year clinical experience. J Nucl Med 1981;22:647.
4. Wilton G, Froelich JW. The "false-negative" Meckel's scan. Clin Nucl Med 1982;7:441.
5. Burt TB, Knochel JQ, Datz FL, Lee TG. Uterine activity: a potential cause of false-positive Meckel's scans. J Nucl Med 1981;22:886.
6. Soltero MJ, Bill AH. The natural history of Meckel's diverticulum and its relation to incidental removal. A study of 202 cases of diseased Meckel's diverticulum found in King County, Washington, over a fifteen year period. Am J Surg 1976;132:168.
7. Yamaguchi M, Takeuchi S, Awazu S. Meckel's diverticulum, investigation of 600 patients in Japanese literature. Am J Surg 1978;136:247.

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SCIENTIFIC ARTICLE

Penetrating Head Trauma by a Boat Cleat

Frederick L. Potts III, M.A., M.D., F. Douglas Jones, M.D., and Vegesena Prudhvi Raju, M.D.

• *This case report of low velocity penetrating skull injury is interesting because of the mechanism of injury, the nature of the object, the dramatic radiologic appearance, and the absence of both loss of consciousness and neurologic sequelae.*

LOW velocity, penetrating head trauma has been caused by every conceivable object including nail, needle, icepick, pencil, scissors, rearview mirror, car antenna, fan blade, and other bizarre objects, with the most common being a knife blade.[1-7] Our patient, a four-and-a-half-year-old child, suffered impalement of his head by a boat cleat.

The boy was standing on the deck of a family-owned pleasure boat when another, larger boat sped by causing a large wake, such that he lost his balance and fell headfirst onto a mounted boat cleat. The cleat impaled into the child's left forehead and, as his momentum caused him to flip over the side of the boat into the water, the screws anchoring the cleat were stripped from the fiberglass boat. The child was quickly retreived from the water, crying and fully conscious.

With the boat cleat impaled, the child was rushed to a local emergency room where he was found to be neurologically intact. Pediatric Diphtheria-Tetanus toxoid and a prophylactic antibiotic were given, and a standard paper cup was placed over the exposed part of the boat cleat to protect the area from additional trauma.

The child was then transported, with cervical spine immobilization, via helicopter to the regional trauma center in Greenville, North Carolina, where, on arrival, the physical exam revealed a frightened but neurologically intact patient, with a metal boat cleat impaled in the left frontal skull just behind the hairline approximately 2-3 cm left of midline (figure 1). Vital signs were stable and cervical radiographs were normal. Trauma Score was 16.* Skull radiographs revealed an impaled, metallic foreign body approximately 5 cm into the left frontal cortex, with a depressed skull fracture (figure 2, next page).

The patient was taken to the operating room where the cleat was removed intact, and a left frontal craniectomy with débridement was performed under general endotracheal anesthesia. The depressed skull fracture was repaired and the patient started on phenobarbital prophylactically.



Figure 1. *Boat cleat impalement of skull.*

Postoperative computed tomography of the head revealed contusion at the site of injury without evidence of retained bone fragments. The patient was treated with intravenous antibiotics for a total of seven days. The postoperative course was unremarkable and the patient was discharged home on day ten on phenobarbital. A one-month follow-up revealed no complications.

Discussion

When initially seen in the emergency department, a case of an impaled cranial foreign body can be quite a challenge. The basic principles of stabilization, cervical spine immobilization, hemorrhage control and airway and wound care are important in initial management. Furthermore, as in this case, transfer to the nearest appropriate facility for definitive care is indicated.

Before transport, minimal manipulation of the foreign body is important, as underlying tissue may be damaged or hemorrhage recur. Protection of the injury site aids in the prevention of such manipulation. In this case, a standard paper cup placed over the impaled boat cleat served as an excellent protective covering. Tetanus prophylaxis

*The Trauma Score is a numerical grading system for establishing the severity of injury. The score is composed of the Glasgow Coma Scale and measurements of cardiopulmonary function. Each parameter is given a number (high for normal and low for impaired function). Severity of injury is estimated by summing the numbers. The lowest score is 1 and the highest is 16.

From the Department of Emergency Medicine and the Department of Surgery, Division of Neurosurgery, East Carolina University School of Medicine, Greenville 27834



Figure 2. *Lateral radiograph of the skull showing the impaled boat cleat.*

and antibiotic coverage are also indicated. Upon arrival to the appropriate facility, the patient should be completely re-examined and prepared for the operative removal of the foreign object.

Preoperative evaluation may include plain radiographs, computerized tomographic scanning and angiography if injury to a major vascular structure is suspected. The object is then removed in the operating room where the physician is prepared to control hemorrhage and definitively treat the injury. Adequate débridement is absolutely necessary. Postoperative antibiotic and anticonvulsant coverage may be indicated.[4]

Acknowledgement

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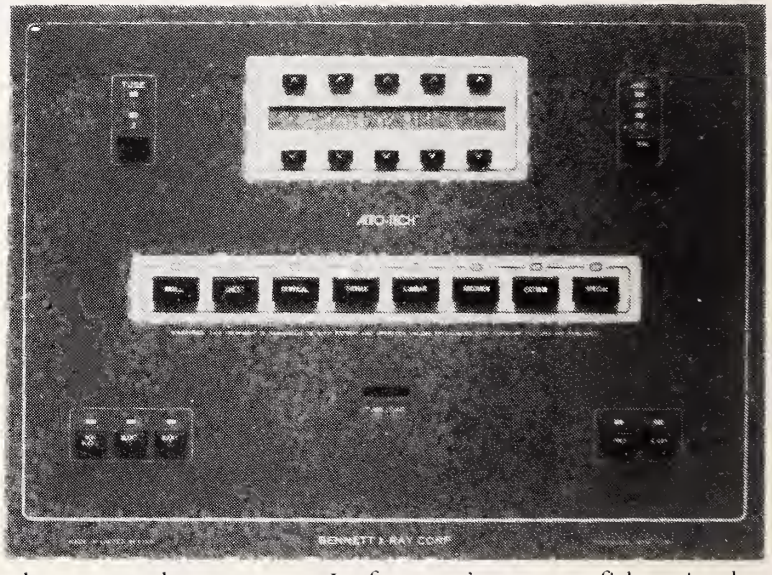
References

1. Reeves DE. Penetrating craniocerebral injuries: report of two unusual cases. J Neurosurg 1965;23:204-5.
2. Askensy HM, Kosary IZ, Braham J. Sewing needle in the brain with delayed neurological manifestations. J Neurosurg 1961;18:554-6.
3. Bakay L, Glasauer FE, Grand W. Unusual intracranial foreign bodies. Acta Neurochiv 1977;39:219-21.
4. Dujovny M, Osgood CP, Maroon JC, et al. Penetrating intracranial foreign bodies in children. J Trauma 1975;15:981-6.
5. Dooling JA, Bell WE, Whitehurst WR. Penetrating skull wound from a pair of scissors: case report. J Neurosurg 1976;26:636-8.
6. Ekong CE, Gabrial YH. Unusual head trauma by a rearview mirror. J Trauma 1980;20:422-3.
7. Markham JW, McCleave DE, Lynge HN. Penetrating craniocerebral injuries: report of two unusual cases. J Neurosurg 1964;21:1095-7.

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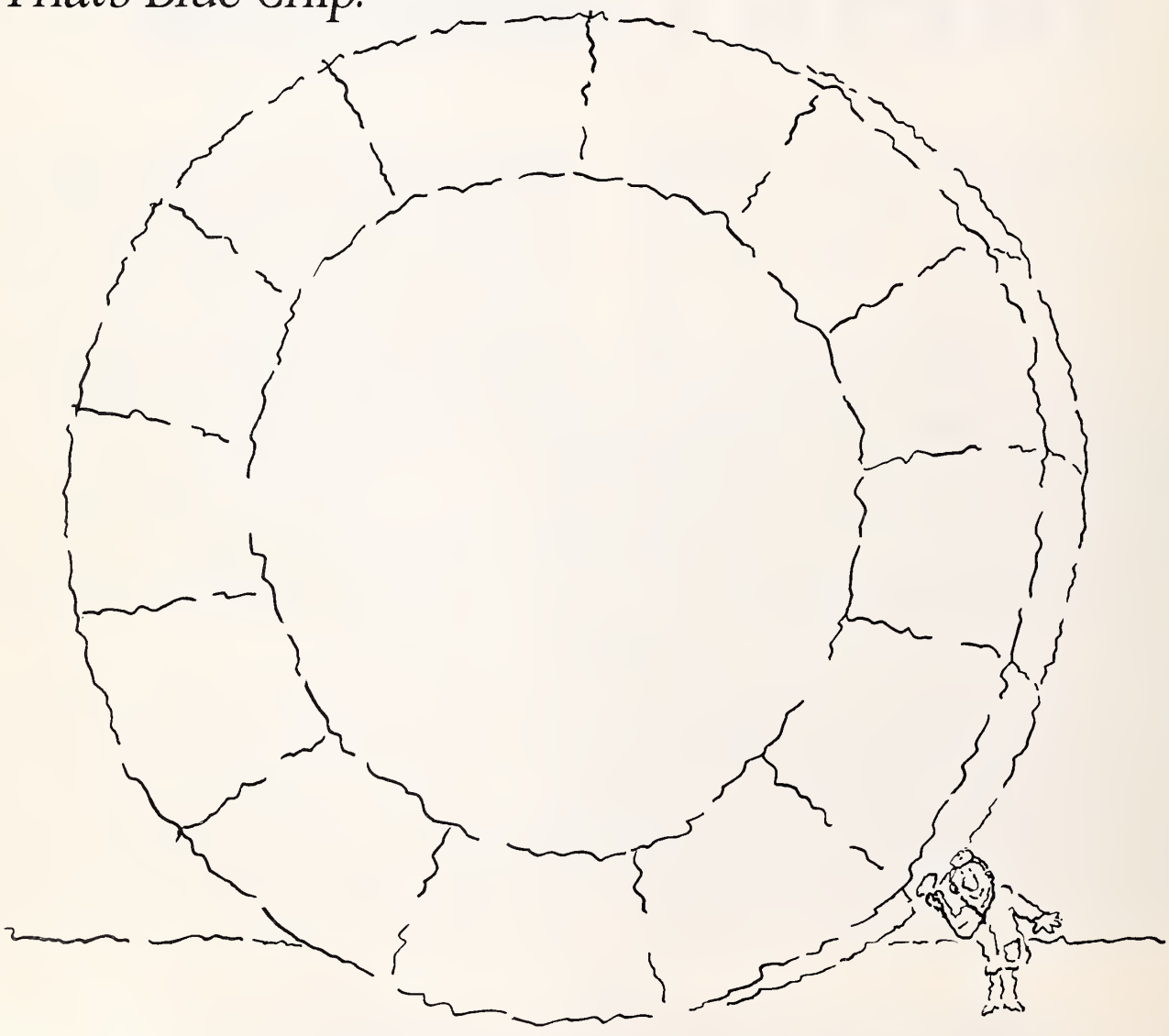
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Features for Patients January 1987

Indoor Radon: A Residential Radiation Dilemma

Dayne H. Brown, M.S., Chief, Radiation Protection Section

In the past, inhalation of radon, a naturally occurring radioactive gas, and its radioactive decay products was recognized as a serious occupational hazard for uranium miners who, as a group, were observed to have a significantly increased incidence rate of lung cancer. This led to the development of Nuclear Regulatory Commission airborn radon standards for uranium mines.

Inhalation of radon and radon decay products by the public was initially recognized as a significant problem in western states where uranium mill tailings had been used as backfill and as a construction material in homes and public buildings. This led to a more general concern with technologically enhanced natural radioactivity, still focusing on things humans have done to cause increased radiation exposure above otherwise natural background levels.

It was not until 1984 that there was the belated realization that *radon is the public's principal source of radiation exposure*. This realization was triggered by a Pennsylvania nuclear power plant worker's setting off personnel contamination monitor alarms when he reported for work. Subsequent investigation found his home to be highly contaminated, not with radioactivity from the nuclear plant, but with naturally occurring radon and its radioactive decay products.

From the Department of Human Resources, Division of Facility Services, Raleigh 27603.

Radon and Its Origin

Radon is a naturally occurring radioactive noble gas which is invisible, odorless, tasteless and chemically inert. It is interesting to note that if radon were not a gas there would not be an indoor radon problem, since it would remain fixed in the rock and soil where it originates and would not be able to migrate to the earth's surface and into the air.

There are actually three different isotopes of radon occurring naturally, each of which is radioactive: radon 219, radon 220 and radon 222. They are radioactive decay products of very long-lived, naturally occurring parents: uranium 235, thorium 232, and uranium 238, respectively. However, only one of them, radon 222 from uranium 238, is either produced in sufficient quantity or survives in a gaseous state long enough to actually migrate into the air from the rock or soil where it is generated.

Uranium, 99.27% of which is uranium 238, is present in nearly all soil and rock, sometimes in rather high concentrations. As uranium 238 atoms undergo radioactive decay, they emit radiation and are sequentially transformed into a series of different types of radioactive materials which also emit radiation, before eventually becoming nonradioactive lead. Radon 222 is one of the seventeen different radioisotopes resulting from this complex radioactive decay process.

Radon 222 has a radioactive half-life of about 3.8 days (time required for one-half of an initial amount to undergo radioactive decay). This is long enough to allow some of the radon, free from any chemical bonds, to migrate through the rock or soil into the air. The radon continues to undergo the radioactive decay process, giving rise to ten different types of nongaseous radioactive materials. It is the inhalation and subsequent lung deposits of these nongaseous radioactive "daughters" of radon which can cause significant radiation exposure.

Radon is constantly generated in the soil and rock formations and constantly rises to the surface of the earth where it mixes with air. In the out-

door air, radon is quickly diluted to very low (although easily measurable) levels. In general, these levels should not be of concern. However, inside homes or other enclosed structures over the ground, it is possible for radon to accumulate and concentrate as it emanates from the ground and into the enclosed air space.



Risk From Radon Inhalation

When inhaled, some of the radioactive decay products of radon are retained in the lungs where they cause radiation exposure to the bronchial epithelium. The only known health effect of this exposure is an increase in the risk of developing lung cancer.

In the absence of a nationwide survey, the national average indoor radon concentration has been estimated at one picocurie per liter (pCi/l). Continuous inhalation at this level is estimated to result in a radiation dose to the lungs of 3,500 millirem per year (mrem/yr) based on conversion factors used by the National Council on Radiation Protection, or a dose equal to about 80 chest x-rays. Scientists estimate that lifelong exposure to such a level will result in three to 13 lung cancer deaths per 1,000 persons exposed, and that between 5,000 and 20,000 people die each year due to radon-induced lung cancer.

The Environmental Protection Agency (EPA) has recommended that remedial steps to lower radon levels be taken in homes with concentrations over four pCi/l. Exposure at this level would correspond to an annual lung dose of about 14,000 mrem, equivalent to about 300 chest x-rays, and 13 to 50 lung cancer deaths per 1,000 people with lifetime exposure. This is in contrast to other standards set by EPA: 25 mrem/yr to the lungs, and most other organs, from nuclear fuel cycle facilities; 75 mrem/yr to the thyroid from nuclear fuel cycle facilities; and 4 mrem/yr to the total body or any organ from human-produced radioactivity in drinking water. The significant difference between radon standards and other standards reflects a difference in philosophy made necessary by the widespread and natural occurrence of the problem. Even ambient levels in outdoor air may cause lung exposure on the order of 300 mrem/yr.

The radon levels in the home of the Pennsylvania nuclear plant worker who triggered the present concern were over 1,000 pCi/l. Of the homes surveyed in Pennsylvania's Reading Prong geological region, 60% exceeded the four pCi/l level at which EPA recommends remedial actions to reduce the level and 15% exceeded the National Regulatory Commission limit for uranium miners.

Representative data on radon in North Carolina homes are not yet available; however, data are available for about 160 homes that used radon measurement devices from the University of Pittsburgh. Of these, about 13% had levels above four pCi/l with a maximum of about 20 pCi/l. There was also some indication that levels may be highest in the western counties, somewhat lower in the central counties and lowest in the coastal counties.

As seen in the Reading Prong, local soil and geological features can lead to significantly higher concentrations of radon in homes. The University of North Carolina at Chapel Hill and the NC Department of Human Resources will conduct a cooperative statewide residential radon study this winter for the preliminary identification of potentially higher radon areas in North Carolina.

Help for Concerned Persons

Those who want to determine radon levels in their homes may purchase two different types of one-time-use measurement devices. Placed in the home for a period of time, the device is to be returned to the vendor for analysis and reporting of the average radon level that existed during that period. Such devices should cost between $15 and $50 each. Lists of vendors who passed voluntary EPA evaluations are available from the North Carolina Department of Human Resources.

The first type of measurement device is the *charcoal canister*. It has a useful life of only a few days and is most appropriate for those who need rapid results; for example, people planning to purchase a new home and wanting to know if there is a radon problem. Since radon levels may vary by more than a factor of 10 over days, weeks or months, the user runs a higher risk of false-positives and false-negatives with this device.

The second type is the *alpha track detector*. It has a useful life of several months and should not be used for less than two to four weeks. The resulting several-month average should yield a much better measure of the real average concentration of radon. This type is recommended for homeowners.

The following are general EPA guides based on measured radon levels:

200 pCi/l and higher: Take actions to reduce levels within several weeks and, if not possible, consider temporary relocation.

20 to 200 pCi/l: Take actions to reduce levels as soon as possible, but in no more than a few months.

4 to 20 pCi/l: Take actions to reduce levels within a few years, sooner if level is at the higher end of the range.

4 pCi/l and below: Reduction of levels in this range will be difficult and no specific recommendation is made.

An EPA pamphlet on radon reduction methods is available from the Department of Human Resources; however, the success of any one method will depend upon how the radon is actually entering the home. Since such methods can be expensive, it may be best to have technicians with sensitive real-time monitors identify the origin of the radon and recommend specific corrective measures.

In the meantime, it should be emphasized that this is not a new health hazard, having existed for longer than humankind itself. The real questions are: How much of the non-smoking-related lung cancer may be due to indoor radon? Can we take steps to reduce its previously accepted incidence rate?

Those who want pamphlets and advice on radon should call or write:

Radiation Protection Section
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Dental Implants

Ronald D. Baker, D.D.S., M.A., and David L. Koth, D.D.S., M.S.

Dental implants are devices placed into or upon the bony structures of the jaws to serve as support for tooth replacements. These replacements may be complete dentures secured in various manners to the underlying implant, which provides better retention and stability with enhanced chewing ability, or individual tooth replacements (crowns) or fixed bridges. Crowns and bridges may use the patient's own remaining natural teeth as well as the underlying implant for support.

Dental implants themselves may be divided into various types. Within each type there may be numerous design choices or systems available from various manufacturers. Implants may be made of pure metals, metal alloys, or ceramics, or combinations thereof. The metal which at present is thought to be most compatible with human tissues, offering the absolute minimal potential for rejection by the body, is titanium. The implants are either inserted into the jawbone or placed under the gum tissue where they rest on the bone of either jaw. The implants that are inserted into the jaw by making an opening into the bone and then placing the implant into the prepared space are known as endosteal implants. The implants that are placed underneath the tissue and on top of the bone are termed subperiosteal implants. With either type a portion of the implant usually referred to as a post will extend through the gum tissue into the mouth. There may be a variable number of posts depending on the circumstances of the case and the implant design.

From The University of North Corolino, School of Dentistry, Dentol Implont Progrom, Chapel Hill 27514.

Who Can Benefit from Implants?

Dental implants may be indicated for a number of patients, depending upon various phychological and physical conditions. It is recognized that there is a group of patients who, due to either emotional or psychological reasons, do not function satisfactorily with conventional removable full dentures. This may occur when the physical condition of the jaws and oral tissues would seem to be favorable for denture use.

There is a somewhat larger group of patients who have been able to wear conventional removable dentures satisfactorily for many years, but who have had continued loss of supporting bone and increasing difficulty with denture use. These patients do have viable alternatives. Bone grafts or synthetic bone may be used to build up the jaws. In many instances, soft-tissue procedures accomplished primarily or after bone buildup under general anesthesia in the hospital will allow these patients to again function with conventional dentures.

In many patients exhibiting bone loss and soft-tissue alteration, implants may be less invasive or traumatic than procedures to build up the jaws. Observation shows that in this group of patients post-menopausal women predominate. There has been no clear-cut correlation between the generalized osteoporosis or bone loss in these patients and loss of bone in the jaws. Dentures are associated with the potential for continued bone loss, and the rebuilt jaw will have the same risk of bone loss with dentures as the original jaw.

Although the potential for continued bone loss exists with some implant systems, there is very strong clinical evidence to show that selected implant systems will actually provide physiologic stress to the remaining bone resulting in a marked reduction of bone loss. This applies to the lower jaw only; however, this is the jaw that usually presents with the greatest overall degree of bone loss.

Another indication for the use of implants is in the patient who has had a traumatic loss of bony and/or soft tissues in the mouth. Similar loss may be found in patients who have had tissue loss due to the removal of dental cysts or tumors, or who have had cancer surgery. One system in fact has a modified technique to place implants in either facial bones or skull bones to assist in the retention of maxillofacial prosthesis retention — i.e., artificial eyes, noses, and ears.

A significant number of patients with many lost natural teeth desire fixed replacements rather than removable appliances. In a case where there is inadequate support from the patient's remaining teeth, implants may be useful in providing the additional support required for the fixed replacement.

Implants are not the answer in all patients or in all otherwise unsolvable circumstances. Certainly the health history and medical consultation are exceedingly important in the evaluation of patients for the use of these devices. The patient must be in generally good health. Implants may not be indicated where there is systemic or local disease.

Implants have been accomplished in patients with systemic disease processes under medical control, such as a controlled diabetic. In the presence of either local soft-tissue or bony disease, the placement of implants should be delayed until the disease process has been controlled. In a case of surgical resolution of local soft-tis-

sue processes, three or four weeks of healing may be required prior to implant placement. In a case of bone disease, extraction of diseased teeth or teeth associated with local disease processes in the surrounding bone will require a delay of several months to allow for adequate bony healing prior to placement of the implant.

The patient must also be able to maintain the implant post and the surrounding tissues in a scrupulously clean condition. Indeed, the implant system may require more effort on the part of the patient than maintenance of natural teeth. Placing implants into the jaws of a patient who cannot or will not maintain them will almost certainly lead to failure.

Another consideration is the amount of bone and proximity to other anatomic structures. All endosteal implants require a minimum amount of bone for success. The amount required is dependent on the implant system utilized. If there is an inadequate amount of bone, consideration may be given to augmenting the existing bone with bone from the patient's hip (iliac crest) to allow implant placement.

Complications

Implants have provided exceptional service for a great number of patients. As with all surgical procedures, however, there are potential complications and failures. While all systems will invariably fail if the patient lives long enough, some systems have inherent properties that raise this potential at an early date.

The primary complication of concern to practitioner and patient alike is loss of the implant. This can occur early or after prolonged utilization in all implant systems; however, significant differences do exist among the various systems. One large group is designed for insertion followed by near immediate loading or placement in occlusal functioning (biting). In these systems, variably shaped bone preparations are made, followed by the placement of one or more implants with one or more posts projecting into the oral cavity. The soft tissue is sutured around the post, but will not become attached to it. A dental appliance is then placed, supported by the implant post(s).

Since complete rigidity of the implant cannot be maintained during biting, the implant may have slight movement. This movement can cause the formation of fibrous connective tissue (scar) between the implant and the bone. Advocates of these systems relate this tissue functionally to the periodontal ligament attaching natural teeth to the bone. This is inaccurate in that there are cellular differences and scar tissue does not have a resistance to bacterial invasion. These systems then are subject to bacterial invasion of this peri implant tissue and eventually a localized osteomyelitis.

The time of occurrence and the extent of destruction of alveolar bone that will result in any one individual will depend on a number of factors. These include skill of the operator, host healing response, health, oral hygiene, time of recognition of the disease process, and time of removal of the implant. In many instances failure due to localized osteomyelitis has lead to such significant degrees of bone loss that extensive bone grafting procedures failed to enable the use of conventional prostheses. Further implants were often not feasible. In the maxilla, bone loss and soft-tissue involvement have resulted in both oral antral and oral nasal fistula. These are often exceedingly difficult to close. They preclude the functional use of a conventional prosthesis because retentive suction cannot be secured.

Complications of this type are in general less severe with subperiosteal implants. The subperiosteal implant has achieved a longer-term success for many practitioners. The potential for osteomyelitis is less, since the bone is not primarily invaded in the placement process. Bone destruction may occur as the implant is at times seen to "settle" into the bone secondary to bone resorption from the occlusal (biting) stress. Although rare, either of these circumstances can result in mandibular fracture. The primary complication with the subperiosteal implant system is the dehiscence (opening) of soft tissues over the implant framework. This, although not necessarily cause for removal of the implant, provides a potential irritant for the patient as well as a possible path for oral organisms to seed the peri implant area and cause infection.

The third major type of dental implant utilizes the concept of osseointegration. In this system, precision openings, usually cylindrical, are made into the bone. The cylindrical implant or fixture is placed in the bone, the surgical site is sutured closed and the implant is allowed to heal for four to six months before uncovering. In a second operative procedure posts are placed and the dental appliances fabricated. This system results in a soft-tissue capsule of minute dimension compared with the other endosteal systems. the surrounding soft tissue is so minimal that there is little potential for an infective process.

The most common complication of these implant systems is failure of the cylinder or fixture to become firmly attached to bone. Treatment for this is to remove the fixture and allow bone healing. As the failure is seldom accompanied by an infective process, another fixture can be placed in the same area. This is in sharp contrast with the destructive processes associated with failure in the other implant systems.

There are some complications common to all implant modalities. The complication often of immediate and prolonged concern is the loss of sensation or production of an altered sensation secondary to nerve damage. This most commonly occurs when implants are placed in the posterior part of the mandible causing injury to the nerve, which results in numbness or tingling in the lower lip and/or chin area. The lingual nerve to the

tongue or the infraorbital nerve are less commonly involved.

In the maxilla, the sinus is most commonly involved in the posterior area. Failure of the implant here may lead to an oral antral fistula secondary to bone loss. Oral nasal fistulae are also seen on occasion.

Failures secondary to infection may result in protracted periods of pain, facial or localized cellulitis, the risks of repeated courses of antibiotic therapy, and bone loss.

The incidence of complications may be more variable among dentists than in many other areas of practice because of the relative skill and training of the operator, patient selection and the systems used. The newer "osseointegrated" systems have a documented lower incidence of complications. Implants give many patients years of restoration to more normal chewing function. However, at this time there is not any one system with universal application and without some degree of complication.

Philosophy of Placement

In consideration of the above, it is clear that implant procedures must be accomplished by a person or team dedicated to following the meticulous procedures required at every step. The practitioner contemplating placing implants must have an understanding of the physical status of the patient and of how medical conditions may affect treatment. Since many implant procedures are accomplished on an outpatient basis, the ability to provide an adequate level of comfort by utilization of various sedatives and analgesics is important. Thus, practitioners accomplishing the implant surgery proper should have adequate knowledge, training, and skills in control of pain and anxiety. The surgical procedures must be done with a sterile technique approximating operating-room levels. The prosthetic rehabilitation accomplished on the implants must be done to exacting standards. Improper prosthetic procedures may cause failure of the fixtures.

As a result of these considerations, dental implants are being done in two widely differing manners. The first involves a team approach such as practiced by the Clinical Dental Implant Program at the University of North Carolina School of Dentistry. In this approach, the surgical placement is accomplished by a surgically trained dental specialist. The prosthetics is similarly accomplished by a dental specialist trained in prosthetics or a dentist with significant prosthetic experience. The area of dental implants is not a specialty area recognized by the American Dental Association. The second method of implant practice is by general dentists who have devoted significant effort to the area of dental implantology. Significant numbers of implants are accomplished by this type of practitioner.

The cost of a dental implant procedure is highly variable depending on the type of system utilized and the type of prosthetic replacement. Titanium is exceedingly expensive and presents difficulties in manufacturing. Single cylindrical implants or fixtures in one system cost approximately $350 each, with five often being required for the full restoration of one jaw. When the surgical fee, the prosthetic lab, and the professional fee are added it should be appreciated that total expense to the patient may be in the realm of several thousands of dollars. In some instances simple stabilization of conventional dentures can be accomplished at more reasonable costs. Fixed bridges are usually much more expensive due to the higher costs of necessary lab work and gold used in these restorations.

Summary

Some specifically selected dental implants, when placed in appropriate, well-screened patients by competent and well-trained professionals, may provide years of excellent service with minimal complications. The traditional endosteal implants may provide satisfactory service; however, they are not as predictable in outcome and do have documented greater degrees of complications. The subperiosteal implant has achieved a reasonable degree of success in the hands of many practitioners. It is appropriate only in a limited number of selected patients, and does have some variance of success dependent on the practitioner who places the implant. Newer techniques utilizing computer technology and ceramic coating may solve some of the disadvantages of this system. The newer osseo-integrated systems have at this time the best documented success, with the least number and degree of complications. They are technically demanding. In addition, some of these systems do not have the flexibility to solve all conditions where implants may be desired.

The field of dental implantology is both complex and demanding. It is in an era of significant change, with increasing emphasis on basic and clinical research to further refine the usability and predictability of these systems. While not an answer for every patient or every problem, the contemporary dental implants can be expected to raise the quality of life for many dentally crippled patients.



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World Enough and Time — Hydrogen Sulfide Poisoning

Ronald B. Mack, M.D.

FOR most of us time is a thief that steals and steals until there is not enough left to do the things we want and need to do for ourselves. There is always another patient to see, a phone call to make, a committee meeting to attend, a problem with your children, and far too soon you are too close to the two-minute warning.

Andrew Marvell was an English politician in the 17th Century who worried about time and who is best remembered, by readers of poetry anthologies, for one poem: "To His Coy Mistress."[1] In this delightful poem he implores his reluctant lady to make haste. He says, "Had we but world enough, and time, this coyness, lady, were no crime." Marvell later on in the poem admonishes his love: "But at my back I always hear Time's wingéd chariot hurrying near: and yonder all before us lie deserts of vast eternity." If you are ever confronted by a patient with hydrogen sulfide (H_2S) poisoning you will not have time to do extensive contemplation — you will have to act or the patient will no longer answer "here" in the roll call of life. Marvell suggests, "The grave's a fine and private place but none, I think, do there embrace."

All of you know what hydrogen sulfide gas smells like, that's right, *rotten eggs*. This very noxious substance is colorless and highly flammable. The characteristic odor is perceived at relatively low concentrations but at somewhat higher concentrations the olfactory receptors apparently become paralyzed and the odor does not act as a danger signal because you can't sniff it properly (oh, how I wish for olfactory paralysis, at times, in our clinic; some of the parents who come to the ambulatory department suffer the disease known well to outpatient clinic physicians, "pit rot"). The range of toxicity of H_2S can be as little as experiencing eye irritation and cough to *immediate death.*

Exposure to hydrogen sulfide gas can occur in a variety of settings such as mines, sewers, waste-water treatment plants, in the petrochemical, gas and tanning industries and in liquid manure systems[2] (ick!!) kept in storage tanks by livestock farmers. Hydrogen sulfide gas is very toxic, odoriferous, extremely irritating, inflammable and colorless. The toxic effects are both local and systemic.

The local effects of H_2S seem to be particularly difficult on the eyes of the victim, causing intense conjunctival infection, ocular pain, blurred vision, blepharospasm, lacrimation, photophobia, keratoconjunctivitis, vesiculation of the corneal epithelium and the sensation of seeing colored halos around lights. Under these circumstances it would be very difficult to say those famous lines from "Casablanca" that Humphrey Bogart said to Ingrid Bergman: "Here's looking at you kid!!" By the way, because exposure to high concentrations of this gas can be fatal, maybe the experience of seeing colored halos is a real "out of body" event in those destined for heaven (I must admit I never knew angels wore colored halos; well, live and learn, or is it, die and learn?) Mucous membrane involvement, other than ocular, is to be expected, especially rhinitis, pharyngitis and irritation of the tracheobronchial tree. It would not be a surprise, in the exposed patient, for the doctor to observe severe coughing and dyspnea in addition to pronounced ocular disability.

Let the record show that at higher concentrations hydrogen sulfide gas can kill you dead and quickly. It can, in fact, kill as quickly as cyanide if the concentration is high enough. Patients, still conscious after exposure to high concentrations, complain of headache, nausea, dizziness, confusion, and weakness of the arms and legs, and then they can abruptly lapse into unconsciousness and death due to respiratory failure. There seems to be a direct depressant effect on the respiratory center caused by this gas. The mortality rate is about 6%. In a patient who is still alive but obtunded you would expect to see cyanosis, tachycardia, tremors and seizures and you often do see these adversities, but be careful or you may be the next victim. *Let it be understood that the health care professional offering aid to the victim must never go to the site of the downed victim without wearing a self-contained breathing device.*[3] If you ignore this warning, do so at your peril. Hearing the bugler blow "TAPS" is not my idea of a fun afternoon. The majority of deaths due to this poison occur at the exposure site. Rescuers apparently have a high morbidity and mortality rate.

It is fair to ask, at this juncture, why hydrogen sulfide gas is so toxic. This gas is an intracellular poison. It causes histoxic anoxia and anyone who has had this condition can tell you that it smarts. The hydrosulfide, according to many authorities, inhibits the cytochrome oxidase system (as does cyanide) by interrupting electron transport. The end result is cell death because of the inactivation of aerobic metabolism. It is no surprise that the brain and heart are the organs most sensitive to oxygen deprivation.

It is probably old news that many treatments are controversial. All one can do when the truth is not exact is

From the Department of Pediatrics, Bowman Gray School of Medicine, Wake Forest University, Winston-Salem 27103.

to go with experience, good clinical judgment and the best data available. One must be reminded of the fact that treatment must be quite rapid and includes as a primary precept that the victim must be removed from the toxic site with great dispatch (observing the safety precautions for the rescuers previously mentioned). The basic controversy regarding treatment is whether the *use of nitrites* is indicated. Because this gas inhibits cytochrome oxidase it has been the practice to treat this poisoning as one would treat a cyanide poisoning, i.e., administer nitrites. This latter substance has as its aim the inactivation of sulfide. Nitrates attempt to do this by: (1) *forming dissociable sulfhemoglobin* which allegedly removes sulfide from combining in tissue (the now nontoxic sulfhemoglobin is further broken down into nontoxic oxidized forms of sulfur and excreted in the urine) and (2) *inducing methemoglobinemia* which competitively binds circulating sulfide ions, removing it from the cytochrome oxidase system. Does this methemoglobinemia formation as a treatment sound familiar? Sure it does. Antidotal induction of methemoglobinemia is the basis of the treatment of cyanide poisoning, i.e., methemoglobin has a greater affinity for cyanide than does cytochrome oxidase. The end result of the treatment of cyanide poisoning is to disrupt the cyanide-cytochrome complex, allowing oxidative metabolism to resume.

We can now see what we have to do to reverse the bad situation in a hydrogen sulfide poisoning as quickly and efficiently as we can: 100% O_2 must be administered. Begin nitrite therapy. Where are you going to get this stuff? You mean you forgot already? You get it from the Lilly Cyanide Antidote Kit. Begin with the amyl nitrite ampules. After breaking the ampule, administer the amyl nitrite in such a way that the patient inhales it for 30 seconds of every minute. Use a fresh ampule every three minutes. Only give the amyl nitrite until the sodium nitrite has been prepared for intravenous administration. The dosage schedule for the sodium nitrite is the same as in cyanide poisoning. Be very careful when administering sodium nitrite to children as it can lead to fatal methemoglobinemia. For children you can give a 3% sodium nitrite solution at 0.33 ml/kg not to exceed 10 ml at a rate of not more than 2.5 to 5.0 ml per minute. The lower the children's hemoglobin the less sodium nitrite you should administer. Oops, don't forget . . . do not administer sodium thiosulfate in H_2S poisoning as you would in cyanide intoxication.

Well, that seems easy enough, doesn't it? Wrong, rotten egg breath!! The issue of nitrite therapy in this intoxication is far from settled and is, in fact, rather controversial.[4] However, because it is currently the only game in town, induction of methemoglobinemia is recommended, if the treatment can be started early. Several authors prefer oxygen therapy alone without nitrite therapy, because sulfide is rapidly oxidized to sulfur and sulfur oxides by giving oxygen therapy and producing oxyhemoglobin and because methemoglobinemia production takes too long and could be dangerous.[5] Some authorities go a step further and administer hyperboric oxygen, which seems like a great idea. Until a better treatment is found the use of nitrites is probably the way to go.

I could not find any evidence that Marvell's coy mistress succumbed to his entreaties but there is a footnote in one source that says he was awaiting the results of a HTLV screen.

Please say hello to my new grandson, Joseph Andrew Mack, who is giving us a problem — we can't get the fettuccine noodles small enough to fit through the nipple holes in his bottle.

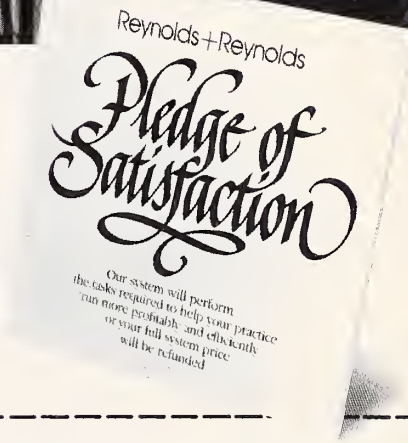
References

1. Marvell A. The complete poems. Middlesex, England: Penguin Books, 1985, p. 50.
2. Morse DL, Woodbury MA, et al. Death caused by fermenting manure, JAMA 1981;245:63.
3. Marcus SM. Hydrogen sulfide, clinical toxicology review, Massachusetts Poison Control System 1983;5:1.
4. Hydrogen Sulfide, Poisindex. Rocky Mountain Poison Center, Oct. 1986.
5. Ibid.



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The Boat People

The 1986 Whitehead Lecture to the 1990 Class of the University of North Carolina Medical School

Ernest Craige, M.D., Henry A. Foscue Distinguished Professor of Cardiology, August 20, 1986

PEOPLE will look back on this as being a time of great ferment and change in the delivery of health care, and many of the profound alterations that we are witnessing are only marginally under the control of our profession.

What has happened is that the cost of medical care has risen so dramatically and out of proportion to other costs in society that various methods of containment have had to be inaugurated in an effort to bring the whole thing under conrol. So we see a proliferation of new schemes by which health care is provided with various incentives or restrictions designed to shorten hospital stay, reduce unnecessary laboratory work, duplication of diagnostic procedures and un-needed surgery. All of these, of course, are admirable goals. The forms that these cost-containing methods take are numerous and bewildering so that patients are confused about where to sign up in the hopes of finding humane and scientifically expert medical care.

This confusion on the part of the public is shared by the medical profession itself, as I have suggested in this drawing, whence comes the title of my talk — "The Boat People."

The boats are the new vehicles for delivery of health care: the Health Maintenance Organization or HMO; the Preferred Provider Organization or PPO; Blue Cross/Blue Shield; Electronic Data Systems or EDS; Diagnostic Related Groups or DRGs; for-profit hospitals which may buy out community hospitals and take over the obligations formerly assumed by the county; independent surgical clinics; doctors in supermarkets ("doc in a box"); and finally a traditional solo practitioner. These alternatives confront the medical profession, faculty, and those in practice, nurses and paramedical professionals, patients and general public.

We see the Class of '90 in the midst of this gang — relatively unperturbed by the chaotic scene around them. This is because their minds are not cluttered by earlier experiences which make the current situation so radically different for these other players. The doctors in practice are deeply disturbed. This one has decided to call it quits and go over the side. His colleague is reaching out, perhaps to save him, or is he actually giving him a push? On the horizon lurks a ship full of lawyers ready to scoop up any strays. The people on the dock, which includes all of us, don't know where these boats will be taking them. Unclear about their objectives and the means of getting there, they resemble the boat people setting out from Vietnam to some uncertain destination.

Each of these vehicles for the delivery of health care has the potential of helping to accomplish the overall objective of excellent care under controlled cost. The problems with them are too varied and complex to discuss here but generally result from the possibility of failure to reach the intended purpose, owing to human frailties of avarice, excessive bureaucracy, etc. Conflicts of interest arise where the decision-making on the part of the physician is leaned on by a variety of financial and administrative influences. A potential sinister result of all this is a two-platoon health care system with the poorer segment of society left out.

In this turbulent setting, then, how is the Class of '90 going to keep its bearings and exert its hoped-for leadership in the coming century?

Obviously the star by which these newest of the boat people, the Class of '90, will hopefully set their compasses is what is best for the patient. This seems too obvious to mention, but it requires reiteration. A fixation on the well-being of the individual patient is an admirable goal but is probably an oversimplification. There is also to be considered one's concern with what may be a conflicting duty to society as a whole. For example, the media are frequently giving details of the perilous experience of some child in Texas or California undergoing a liver transplant, or a man in Louisville getting a mechanical heart. The public appears to have an insatiable interest and faith in these technological advances. The liver transplant may be rejected and require an emergency search for a second donor. Even the President has intervened in one such drama. The cost of such procedures is enormous. Since resources are finite, we will have to weigh the projected benefits against the use of the money in less dramatic ways for the benefit of a larger number of people.

It is clear that in the foreseeable future any measurable improvement in the health of the population is going to have to take place by means of preventive medicine and reduction of self-destructive, suicidal practices and not by means of individual technological spectaculars. I have in mind the reduction of toxins in the atmosphere, the arms race, for example, being the world-class suicidal impulse, against which I'm proud to say members of our faculty and physicians all over the world have provided an imaginative and courageous campaign. Other destructive tox-

From Department of Medicine, University of North Carolina School of Medicine, Chapel Hill 27514



Ernest Craige

ins like drugs, cigarettes and alcohol need to be combatted starting at the school level. Other major problems such as obesity, which afflicts one-third of our population, teenage pregnancy, inadequate pre-natal care, malnutrition in school children — all of these are preventable problems in which our profession must take a leadership role.

At this juncture in medical history, I think that you are particularly fortunate to be the first-year class at the University of North Carolina, rather than at one of many other equally prestigious schools, because the University — that is, the entire University — has always acknowledged its responsibility to all the citizens, regarding the whole state as its campus. The planners of the present four-year medical school back in the late '40s recognized the applicability of this historic obligation to the new institution. Built into its charter was the stated intention of bringing better health care to all of North Carolina.

For those of us privileged to participate in the care of patients here, research and teaching, these years have been very gratifying, since we have been permitted to provide exemplary care to all those referred to our doors regardless of financial status, color, or other potential barriers. We have observed the quality of care all over the state going up dramatically thanks to the effective role of our graduates and those of other neighboring schools. An additional remarkable achievement has been the establishment of our Area Health Education Centers, or AHECs, located in a dozen places from Asheville to Wilmington and in constant personal communication with the center here by means of a fleet of small airplanes.

I don't have any precise itinerary to propose for those embarking on the boats in these times of uncertainty; however, I am encouraged by the idealistic and yet pragmatic approach to patient care problems manifested by our students, and fostered by the philosophy of the University as a whole through its faculty. This is exemplified better than I can say in a brief essay which one of our current fourth-year students, Susan Hovey, wrote in connection with her application for internship. (A statement of purpose is required with the application and generally it summarizes noteworthy experiences the student has had to date and aspirations for the future).

She writes as follows regarding an experience on her first clinical rotation in the third year:

> "My feelings about patient care came to the forefront one day as a result of a very simple incident. I watched an old fragile arthritic patient moving from bed to wheel chair with the assistance of her husband who was only slightly more robust. Although the scene was in a way painful, it also seemed more human, real and therefore graceful than anything I had ever seen. This year I have come to value the patients immensely. They have been an unceasing source of solace and inspiration for me. I was especially and unexpectedly attracted to the older patients and found myself choosing to spend time with them beyond the necessary. I feel a responsibility to these people and in caring for them, hope to have a career that I will both respect and enjoy."

Another valuable discovery that Miss Hovey has made is the importance of maintaining a lively interest in hobbies or nonmedical cultural activities. This helps to prevent medical tunnel vision and improves one's equanimity in a stressful occupation. A broad cultural background is also of immense value in establishing an empathetic relationship with patients.

I recall a vivid example of this from my own intern days some 43 years ago. In a hospital in Boston I had the privilege of having as one of my attending physicians a wise man named Chester Jones. The other intern on the ward and I had under our care an eldely gentleman with a severe anemia. Some malignant condition had destroyed his bone marrow where red blood cells and other formed elements in the blood are manufactured, and he had become terribly anemic. We measured his hemoglobin every day from blood samples obtained by pricking his finger. We knew that the only way his life could be prolonged was by blood transfusions, and he received one or two of these with only transitory benefit. His mind was quite clear. He knew that he was dying, but he refused to have any further transfusions. We had reached an impasse. We told him that we were going to refer the matter to our attending physician, Dr. Jones, since we had confidence that his superior authority and persuasiveness would win the day in behalf of our diagnostic and therapeutic intentions. So before rounds next morning, as was our custom, we filled Dr. Jones in on the events of the preceding night and the crisis that we had reached with this particular patient. Then we went from one bed to another around the large ward.

As we approached the bed of the anemic gentleman, I could see that he was the color (white) of his tunic that was supplied by the hospital. His jaw was thrust forward in a grim determined manner, and his toothless mouth formed an inverted U. All of his belongings and clothing had been taken from him and were stored elsewhere so that the only fragment of personal possessions remaining was a catalogue of Jackson & Perkins, the rose company, lying on his bedside table.

Dr. Jones picked up the catalogue and said, "What do you think of this year's prizewinner, Double Delight?" With that the old man's mouth cracked up into a big smile. Dr. Jones sat down and for five or ten minutes they had an animated discussion about roses. Then we went on to the next bed and shortly rounds were over. Afterwards the other intern and I and the resident had a hurried conference.

"What was decided about the transfusions?"

"I didn't hear them say anything about it!"

The resident said: "It was all decided."

They understood each other perfectly, and realized that further interventions would be futile.

So there won't be any more transfusions.

There won't be any more finger stickings.

Dr. Jones perceived that the time had come to discontinue our "scientific" efforts and devote ourselves to making the remaining hours or days of this patient more tolerable, and he was demonstrating to us how this might be done.

I'm sure that you will have similar experiences — some frustrating, many gratifying. I feel confident that the interaction of your class with our splendid faculty and with the patients whom you will meet will result in increasing maturity, judgment and leadership from which will emerge satisfactory solutions to the problems of health care in the 21st Century. □

$50,000 Award for Innovation

Pfizer Hospital Products Group has posted a $50,000 "Award for Innovation" in medical devices. The Award will recognize an individual or research team for excellence in medical device innovation and encourages further research and development of medical devices to manage and treat diseases. This is the first time the Award is being offered and any person in a health care-related field is eligible to submit an entry.

"An outside panel of experts will judge the scientific merit of the invention, and its benefit to patients," said George Flouty, M.D., medical director of Pfizer Hospital Products Group. "Also evaluated will be the practical application of the invention and its possible impact on the quality of health care."

The deadline for applications is January 30, 1987, and the Award recipient will be announced in May 1987. Application information may be obtained by writing to:

George Glouty, M.D.
Pfizer Hospital Products Group
235 East 42nd Street
New York, NY 10017
Attn: Award for Innovation

What I Learned from a Pregnant Teenage Diabetic Patient

Robert P. Schwartz, M.D.

SHE was 17 years old, and had been my patient for seven years. I first saw her at age nine years, when she came to my office with growth failure and classic signs and symptoms of hypothyroidism secondary to Hashimoto's thyroiditis. After treatment with thyroxine, she had a rapid growth spurt. Since nine months of age, she had been on insulin for Type I diabetes mellitus.

Diabetic control was difficult during the teen years, and her glycosylated hemoglobin values were elevated. After 16 years of diabetes, she developed background retinopathy with scattered microaneurysms and hypertension.

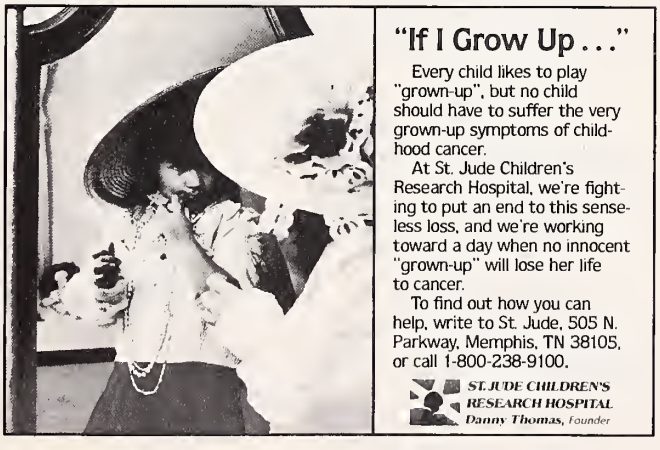
On a visit at age 16½ years, the patient's mother pulled me aside to tell me that her daughter had a boyfriend, was sexually active, and was having unprotected intercourse. The parents were both distraught, but wanted me to talk with her and prescribe a contraceptive. I discussed the various types of contraception with the patient, telling her that birth control pills would place her at increased risk of additional vascular complications because of her diabetic retinopathy and elevated blood pressure. I referred her to a gynecology colleague who also was reluctant to prescribe oral contraceptives because of her retinopathy. He recommended a diaphragm, which she refused. As an alternative, he urged her to use an intrauterine device; again she refused. The boyfriend, who had dropped out of school in the eleventh grade and was working as an auto mechanic, was not willing to use condoms. The patient continued to date this boy. One year later, she was pregnant and had an abortion.

Teenage pregnancy is an epidemic. There were 24,848 teenage pregnancies in North Carolina in 1984 — fifth in the nation. These teens don't plan to get pregnant. The problem is that they don't plan at all.

This case taught me that we must take the time to take sexual histories on our patients early in adolescence. We should check their fund, or lack, of knowledge, and counsel them on the danger of unprotected intercourse. For sexually active high-risk patients, we must consider both the side effects of an oral contraceptive and the risk of an unwanted pregnancy.

Recently, another one of my teenage diabetic patients told me that she was sexually active, and she asked for birth control pills. I thanked her for telling me; and without any hesitation, I gave her a prescription.

From the Department of Pediatrics, Charlotte Memorial Hospital & Medical Center, and the Charlotte Area Health Education Center, Charlotte 28232-2861.



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Physicians as Science Writers

John M. Falletta, M.D.

ISAAC Asimov presented an intriguing notion in his address, "Future of Medical Communication, Doctors and People Talking."[1] He suggested that someday physicians in medical research would be doing their own experiments much as they do today, but that the manuscripts reporting their research would be prepared by a science writer. This view may not be of interest to those physicians whose measure of success excludes the quality and length of their bibliography. But for those of us who report the results of research projects and who find the process of manuscript preparation painful and laborious, this idea merits further consideration. Freedom from the effort of scientific writing could lead to two favorable results: the physician would have more time for discovery; and the manuscript might be more readable. This essay addresses the latter.

The merits of having a science writer to help with medical writing have been embraced by a variety of physicians. Indeed, several hospitals and research institutions now employ such a specialist. An example of how such a colleague could be helpful to the investigator was published several years ago in the *New England Journal of Medicine*.[2] Dr. F.J. Inglefinger, who was then the editor, arranged for an article on tumor immunology to be rewritten by Barbara Culliton, a writer for *Science*. The article dealt with some immunologic phenomena detected in cells from patients with acute leukemia.

From the original manuscript:

> "The present study confirms previous observations that the lymphocytes of the majority of patients with acute leukemia can mount a blastogenic response to their own leukemia cells. Although a correlation between lymphocyte response to autologous leukemia cells and the clinical status of the patient was not reported in these earlier studies, the current studies demonstrate a strong correlation between the degree of blastogenic response to acute myelogenous leukemia cells and their response to treatment, e.g., the higher the stimulation index, the greater the chance for a chemotherapy induced remission. We have previously demonstrated that one can relate prognosis of the patient with acute leukemia to degree of general immunocompetence."[3]

Now from Culliton's revision:

> "Our results support the view that one can correlate specific features of the cell mediated and humoral immune systems with prognosis in acute leukemia. Generally, the correlation we find pertains to individuals with acute myelogenous leukemia rather than to those with acute lymphoblastic leukemia. Our results also confirm previous observations that a majority of patients have lymphocytes capable of mounting a blastogenic response to their own leukemia cells."[4]

While it may be difficult to make a precise comparison between the two versions if one is unfamiliar with cellular immunology, clearly the revised version is shorter, probably more easily understood, and definitely is less ponderous and more enjoyable to read. However, this does not prove that Asimov's prediction will ever come to reality, or that it should. As Dr. Inglefinger pointed out, a science writer's task of reworking a journal article is far from easy.[2] Assuming that the rewriting is limited to the ideas expressed in the original paper, the science writer becomes more of a translator than an independent author. A methods section, which is usually already written in a concise and simple style, does not lend itself easily to rewriting. Also, the science writer cannot be expected to present a clear and abbreviated description of work when the bulk of the work is so preliminary as to preclude the development of any precise conclusions.

The assessment of whether the rewritten manuscript was worth the effort and expense involved was something that Dr. Inglefinger properly left to each investigator. Were we to have a Barbara Culliton at our elbow, ready to revise our ponderous first draft into luster and fluidity and instant acceptance, and were we to have independent funding to support her work, probably all physician-writers would welcome her assistance. Each might also breathe a sigh of relief that the ostensible rate limiting step to success, at least in the academic world, had been overcome. But partly because of financial realities, partly because our egos encourage us to say it our own way, and partly because we require precision in the reporting of our data which a science writer might not achieve, the vast majority of us will continue to be responsible for our own writing of scientific manuscripts, and some of us may even enjoy that requirement.

How can physicians themselves, who have a poor reputation as writers, achieve clarity and simplicity in medical writing? Is there something inherent in the scientific method that makes the report of research conclusions necessarily

From Department of Pediatrics, Division of Hematology/Oncology, Duke University Medical Center, Box 2916, Durham 27710.

dull, verbose, or awkward? Clearly the answer is "no"; there are many examples to be found of crisp, concise and enjoyable scientific prose covering a wide range of topics. A few sentences taken from Watson and Crick's letter to *Nature*, in which they first described the double helix, illustrate how elegance in discovery can be matched by simplicity in prose:

> "We wish to suggest a structure for the salt of deoxyribose nucleic acid (DNA). This structure has novel features which are of considerable biological interest. . . . It has not escaped our notice that the specific pairing we have postulated immediately suggests a possible copying mechanism for the genetic material."[5]

One might consider that work leading to the Nobel Prize ought to be well written! But good writing can even be discovered among less profound biological observations. North Carolinians McMillan and Purcell have written about the puss caterpillar, alias wooly worm, describing its characteristics and the hazard that it holds for human health:

> "Among both physicians and the lay public a vague, if not specified awareness of caterpillars probably exists. In this connection, and with summer and its varied fauna at hand, it seems appropriate to point out that caterpillars of more than 50 species possess irritative hairs. Depending upon the species, the effects of the hairs range from a local dermatitis to an alarming, if not frankly dangerous, disorder with systemic signs and symptoms.
>
> "Although the caterpillar is known to exist widely in the southern United States, Texas apparently harbors the greatest number, and it is therefore appropriate that most clinical reports have come from that state.
>
> "The purpose of this report is to affirm the presence of puss caterpillars in North Carolina, to describe the effects of its hair stings and to consider briefly the general problem of irritative caterpillar hairs. At the outset it seems well to point out that although Texas appears to have more puss caterpillars than any other state in the union, there is no evidence that the average caterpillar in Texas is larger or worse than the average in other states, including North Carolina.
>
> "Although caterpillars in general and the puss caterpillar in particular hardly consititute a major health menace to the American scene, they probably consititute a sufficiently bothersome and unfamiliar problem to justify directing attention to them. What is even more provocative than the clinical effects of caterpillar contact is the unanswered mechanism of their hairs and the undetermined evolutionary basis for the varied defense mechanisms that these hairs represent. Indeed, the not so friendly puss caterpillar, alias wooly worm, is formidably equipped against man."[6]

These excerpts from a manuscript published in a leading American medical journal relate to a subject which most physicians would not have dared to investigate, let alone prepare for publication. The manuscript illustrates vividly how even an obscure topic can be presented well.

Is it possible to analyze medical writing so as to identify common weaknesses? Probably not without dealing with rather dry, pedantic concepts. The usual weaknesses encountered in bad medical writing are overlong sentences, insufficient verbs, reliance on the passive voice, and excessive use of prepositions.

Concerning prepositions and the passive voice, here is an example: "In a previous paper concerning neuritis occurring after insect stings, a patient was described in whom papilledema developed in the left eye within two weeks after being stung on the left temple by a bee."[7]

By changing the passive voice to active, one can transform the sentence to: "In a previous paper, which discussed the neuritis following insect stings, we described a patient in whose left eye papilledema developed within two weeks after a bee sting on the left temple." While the sentence is not shortened much, four prepositions have been eliminated along with the passive voice, and the sentence flows more smoothly.[7]

Efforts at simplicity and brevity have taken some interesting turns. During the 1930s, British linguist C.K. Ogden reduced conversational English to 850 basic words and called his system "Basic English."[8] He reduced the vocabulary of nouns to 600, adjectives to 150, and structural words — verbs, pronouns, adverbs — to 100. His most remarkable economy of words occurred by limiting verbs to 16 — come, go, get, give, keep, let, make, put, seem, take, be, do, have, say, see, and send, plus may and will. By using combinations of verbs with prepositions or nouns, Ogden was able to retain clear and vivid prose, plus simplicity. "Enter" became "go in," "prepare" became "get ready," and "hurt" became "give pain."

His system of Basic English was not intended to substitute for conventional English in circumstances in which persuasive or imaginative uses of language are appropriate. The Lord's Prayer, the Psalms, and most poetry would likely lose considerable power if translated into Basic English.

So would much scientific prose lose its power. The common thread that distinguishes good writing includes simplicity and the active voice. When a simple word can substitute for a complicated one, opt for the simple; and keep in mind that active statements are far preferable to passive statements. "I investigated several examples of good writing" is certainly better than "several examples of good writing were investigated by me."

When we write, each of us is a teacher as well as a student. If clear communication is important, then we have an obligation to practice careful writing and to insist upon the same from our associates.

For example, do not submit a preliminary draft of a manuscript to a colleague for review until you have polished its construction and given it your best effort. When reviewing a colleague's manuscript, offer suggestions to achieve clarity and brevity, and explain why your changes seem preferable. As a journal reviewer, do not accept manuscripts that are sloppily written without requiring their revision. As a journal editor, set clear standards of excellence for medical writing. Remind contributors that their

work will probably draw more attention if it is presented well.

Not all of us have the talents of a science writer, and many of us do not review manuscripts for medical journals, much less edit them. But we can have standards for writing as if we did!

References

1. Asimov I. Future of medical communication. Doctors and People Talking: Addresses in the Lowell Institute Lecture Series. Boston, Boston University Medical Center, 1972, pp. 132-41.
2. Ingelfinger FJ. Twin bill on tumor immunity. N Eng J Med 1973;288:211.
3. Gutterman JU, Rossen RD, Butler WT, et al. Immunoglobulin on tumor cells and tumor-induced lymphocyte blastogenesis in human acute leukemia. N Eng J Med 1973;288:169-73.
4. Gutterman JU, Rossen RD, Butler WT, et al. Revision: Culliton BJ. Immunoglobulin on tumor cells and tumor-induced lymphocyte blastogenesis in human acute leukemia. N Eng J Med 1973;288:173-5.
5. Watson JD, Crick FHC. Molecular structure of nucleic acid. a structure for deoxyribose nucleic acid. Nature 1953;171:737-8.
6. McMillan CW, Purcell WR. Hazards to health: the puss caterpillar, alias wolly slug. N Eng J Med 1964;271:147-9.
7. King LS, Roland CG. Scientific Writing. Chicago, IL: American Medical Association, 1968, pp 15-6.
8. Ogden CK. Basic English. London: K. Paul, Trench, Trubner and Co., Ltd., 1930.

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Letters to the Editor

To the Managing Editor:

Thank you so much for your assistance in starting the ball rolling in my quest to report the work of Sugarman and Butters (Jeremy Sugarman and Ronald R. Butters, Understanding the Patient: Medical Words the Doctor May Not Know, 1985;46:415-7; and letter to the editor, 1985;46:679). I have written to Dr. Sugarman for his permission — and have sent him a copy of the November issue of *Geriatric & Residential Care News*.

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Geriatric & Residential Care News
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I hope that your medical readers find it of assistance. I shall make the contacts with the horse community for their awareness of its availability through their physicians. I shall take it to the Haywood Trails Riders, the local horse club in which I am active, when I show the videotape "Equestrian Helmet Safety."

Thank you again for your leadership in North Carolina.

Doris Bixby Hammett, M.D.
Co-Chair, American Medical Equestrian Association
103 Surrey Road
Waynesville 28786

Some Comments on Dr. Crist's Article

To the Editor:

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It is difficult for me to believe that an article of this type expresses feelings of the Editorial Board of this journal, and I would suggest that in the future greater care be taken in publishing opinions of a small select group as representing the editorial philosophy of this journal.

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Mecklenburg Orthopedic Associates, P.A.
Suite 103 Randolph Building
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3535 Randolph Road
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angry statement that "we must rid our government of those . . ."

The viewpoints expressed in the editorial are as one-sided as the factions they criticize. I consider "Sobering Thoughts" an affront to the intelligence of the *Journal*'s readers. The authors should have kept their biases and bigotry to themselves.

Frederick J. Bachl, M.D.
Salisbury Children's Clinic, P.A.
720 Grove St.
Salisbury 28144

To the Editor:

I have been a member of the N.C. Medical Society and a reader of its Journal since my arrival in this wonderful state in 1970. I have never read a more thoroughly political nor blatantly bigoted editorial than the one (by Crist, et al) found on page 511 of the November 1986 issue.

In an otherwise fine publication I object to its inclusion and don't understand what you hoped to accomplish in printing such inflammatory, one-sided opinion. By stimulating temper you inhibit reason and so become part of the problem. Will you now bring balance to the argument by permitting an opposing view to be published?

Philip Palmer Smith, M.D.
1810 Azalea Drive
Wilmington 28403

To the Editor:

As Bishop of the Roman Catholic Diocese of Charlotte, I am appalled by the apparent anti-Catholicism of the editorial, "Sobering Thoughts," in the November issue of the *North Carolina Medical Journal*. The fact that it appeared as an editorial and not as a letter to the editor, or as an expression of the opinion of the authors, leads me to question whether it does, in fact, represent the official position of the North Carolina Medical Society. I trust that it does not.

I am disturbed that the authors of the editorial used a matter completely unrelated to the Catholic Church as a springboard for an attack on the Church. Neither G.D. Searle, Inc., nor Ortho Pharmaceutical ever has said that the decision to remove their intrauterine devices from the market was made for other than economic reasons. Both firms said they removed the devices from the market because they were faced with millions of dollars in lawsuits because of the adverse publicity about the dangers of other IUDs. There never was any question of pressure from the Church, the administration or the "extreme right wing politicians."

Yet, the authors of the editorial use the withdrawal of these devices as an excuse for accusing the Church of a complete laundry list of what they perceive as offenses. Some of these, I might point out, are in direct opposition to the positions taken by the National Conference of Catholic Bishops.

I will have to take the word of the authors that some associates and aides of Sen. Jesse Helms are Catholics, but the Church never has attempted to dictate to its members what political stands they should take. Some of the strongest opposition to Senator Helms and his positions has come from Catholic members of the Senate.

As for "hidden" Vatican financial contributions to Senator Helms, it is illegal for candidates for federal office to accept such campaign funds. If the authors of the editorial have knowledge of such unreported contributions, it is their duty to call such violations to the attention of the proper authorities. I am sure that some individual Catholics have made campaign contributions to Senator Helms, but that is their right, as American citizens.

I look forward to seeing in a future edition of the *North Carolina Medical Journal* a clarification of the position of both the journal and the North Carolina Medical Society regarding the Catholic Church.

Most Reverend John F. Donoghue
Bishop of Charlotte
P.O. Box 36776
Charlotte 28236

To the Editor:

Your permission of Dr. Crist's "editorial" labeled "Sobering Thoughts" in the November issue of the *North Carolina Medical Journal* is surprising. This editorial blasphemes Jesse Helms, our state senator, the Vatican, and the Catholic Church.

Dr. Crist's, et al, views certainly should not represent the editorial opinion of our North Carolina Medical Society as represented by the *North Carolina Medical Journal*. The article is offensive to me as a physician who happens to be a Catholic.

Is there any explanation?

Martin J. Kreshon, M.D., P.A.
Charlotte Eye Ear Nose & Throat Associates
1600 East Third Street
Charlotte 28204-3282

Response from Drs. Crist et al

The main issue we presented in our editorial, "Sobering Thoughts," is this: Should the reproductive health care policy in the state of North Carolina be determined by the Vatican or by the people of North Carolina?

On August 27, 1986, the *San Francisco Chronicle* published an article by Catholic theologian Daniel Maguire of Marquette University in which he states: "The Vatican has taken poorly to this loss of power and is struggling to regain it. Sexual and reproductive ethics is the chosen ground for that struggle. It need not have been so. The pelvic zone is not the focus of biblical morality and religion. In Galileo's time, the chosen ground was physics and astronomy, but the issue was the same: power." Papal power.

Professor Maguire further states: "(Catholic) Hierarchical lobbies affect legislation on reproductive rights and other matters. It is naive to underestimate the potential for good or ill that lies in religious bodies of that magnitude. Journalistic interest and civic concern are well warranted." We agree. We feel that the medical profession should be deeply concerned. It is this manipulation of our legislative process by the Vatican that Dr. Maguire speaks of that we find objectionable.

Our editorial presents some of the realities of the Vatican's holy war against family planning, the existence of which is beyond refute. Extraordinary documentation of

this struggle is presented in Dr. Stephen Mumford's latest book, *The Pope and the New Apocalypse*, cited in the editorial.

In their letters, Smith, Naso and Joyce say nothing of the issues or these realities. Instead, their letters offer nothing but vicious personal attacks against us and the Editor of the Journal. Webster's dictionary defines "bigot" as, "One obstinately or intolerantly devoted to his own church, party, belief or opinion." We leave it to the reader to decide which writings are bigoted.

We believe that their letters are simply crude attempts to halt discussion among North Carolina physicians of these serious issues which clearly threaten reproductive health care in this state. These letters employ the tactic of psychic terrorism directed at all readers. They seek to terrorize physicians so they dare not look critically at Catholic Church positions in American and world affairs that the Vatican prefers go unexamined and unchallenged. It remains all that, if they do, they are under the threat of being branded as anti-Catholic. We are confident that our fellow physicians will not be intimidated.

Perhaps the time has come for North Carolina physicians to collectively take a position on such Vatican interference in their delivery of reproductive health care. A survey of North Carolina physicians' attitudes toward these issues would be a reasonable next step.

Takey Crist, M.D., F.A.C.O.G., F.A.C.S.
Paul F. Williams, M.D., F.A.C.O.G.
M.R. Barnes, M.D., F.A.F.P.
H. William O'Neil, M.D., F.A.C.O.G.
Crist Clinic for Women
200 Memorial Dr.
Jacksonville 28540

Response from the Editor:

As noted on page one of each issue of the *North Carolina Medical Journal*, the North Carolina Medical Society is not considered as endorsing the opinions advanced by authors. The person or persons signing the paper are the responsible parties.

The editor considers the editorial columns open to those with convictions and strong opinions. Editorial comments do not require the factual underpinnings needed for scientific papers.

The authors of the above letters make clear that they disagree with the editorial. Most of our correspondents do not give information which allows one to balance their views against those of Crist and his co-authors.

The editorial columns of the journal are open to all who have something to say and can write interpretable English. I hope each of you with strong opinions and convictions will send material to the journal.

Eugene A. Stead, Jr., M.D.

To the Editor:

The article by Crist, Williams, Barnes and O'Neil has created significant objection by some members of the Medical Society. When one makes strong statements about politics and/or religion one may expect equal and opposite rebuttal.

Yet Crist, et al are members of the Society and as such have a right to express themselves on controversial issues of interest to the Society at large. They have expressed themselves strongly and not with complete accuracy (since Tom Ellis is not Catholic — he told me so himself).

The Editor has recognized the issues in medical practice and chose to publish the article. To do otherwise would have constituted censorship. I agree with him.

Any apology for this article should come from the authors and obviously not from the Editor. I suggest that all readers refer to the masthead which quotes the constitution of the Society in regard to contents of the *Journal*.

Charles W. Styron, M.D.
Chairman, Editorial Board
North Carolina Medical Journal
615 St. Mary's Street
Raleigh 27605

To Dr. Styron:

Although neither you nor Dr. Stead has asked for it, here is my opinion about the letters on the Crist et al editorial. Louis Shaffner heard me on the subject over the phone and holds similar opinions; my letter is serving for both of us since I have a secretary and he does not at the moment.

Briefly, my reaction is "If the shoe fits, wear it." If Drs. Naso and Joyce find errors of fact in the editorial they should tell us. Drs. Crist and coauthors are clearly identified and the masthead says that their opinions are not necessarily those of the Society. Louis points out that this statement comes from our constitution and does not clearly include editorials, though neither of us sees why it should not. The Pope and other Roman Catholics are not shy about stating their opinions and I am sure that we will hear from those of that persuasion, and from like-thinking Protestants, on this subject. Short of another gun-related piece I can think of little which would provoke more effusion from our readership.

Robert W. Prichard, M.D.
The Bowman Gray School of Medicine
Department of Pathology
300 South Hawthorne Road
Winston-Salem 27103

To the Editor:

Drs. Crist, Williams, Barnes, and O'Neil are to be commended for their excellent editorial "Sobering Thoughts" in the November '86 issue of the *North Carolina Medical Journal*. The editorial had an important message and was correct as far as it went.

Despite the opinions of some bigoted religious institutions, rights are not absolute and total. A person's right to reproduce must be balanced against the rights of society to avoid the misery and suffering inevitably associated with severe overpopulation.

It is only by having free and open discussion of serious issues that we can maintain our democracy. It took courage for Drs. Crist et al to write the editorial and for the NCMJ to publish it.

Albert D. Warshauer, M.D.
1608 East Fifth Street
Greenville 27834

HISTORY OF CAROLINA DOCTORS CARE

As hospitals, private industry, government and insurance organizations with their control of capital have gained increasing influence over health care policy decisions, physicians have found themselves with less and less influence over their professional lives. They have become increasingly concerned with the implied threat to their freedom to discharge their responsibility to ensure quality patient care.

The NCMS Executive Committee in 1985 appointed a task force to recommend ways the NCMS could assist its members in regaining a voice in the medical decision-making process. After careful review and analysis, the task force recommended that the NCMS sponsor a statewide PPO. In May 1986 the House of Delegates overwhelmingly approved the concept. NCMS officers were charged with appointing a Board of Directors and providing startup funding.

In June 1986 Carolina Doctors Care was incorporated as a for-profit corporation and in August 1986 its first subsidiary, Carolina Doctors Care PPO (CDC), was incorporated. Committees were established in finance, recruitment, utilization management, marketing, credentialing and networking. A stock offering was initiated through Blarron Group, Inc. of Raleigh to finance the company long term.

RAISON D'ETRE

Practicing physicians everywhere must seriously address the implications of a changing health care environment. Prepaid plans are moving rapidly into North Carolina. Ultimately, each one of us will be faced with a decision to sign contracts or lose patients. Carolina Doctors Care PPO, Inc. offers us a physician-sponsored, owned and regulated alternative.

The ideal way to practice medicine in the American free enterprise system is still the time-tested fee-for-service system. Through our PPO, this system can be preserved.

A major thrust of CDC will be to unify physicians so that: (a) they are less easily exploited by reimbursers, (b) their negotiating leverage is strengthened, and (c) their professional decisions about quality care will not be superseded by business decisions.

No managed health care plan can function without physicians. As a profession, we must recognize our strength and position ourselves to influence the future of North Carolina medicine. CDC offers these opportunities.

There will always be change. Our challenge is to manage change so that our professional standards are not submerged in a commercial scramble for profits. CDC, with your help, accepts this challenge.

LOGO

The logo, "Carolina Doctors Care," was conceived by two NCMS Auxilians. Notice that the State image is superimposed on the background word CARE, suggesting that we are a statewide organization. The word CARE serves both as a noun — the name of a corporation — and a verb — expressing a poignant message from physicians to the public: Carolina Doctors Care, and we do!

WHAT IS A PPO?

A preferred provider organization (PPO) provides quality health care at reasonable rates. It is a partnership between physicians and businesses to contain rising health care costs. Physicians agree to accept a negotiated fee for specific services and to comply with ongoing utilization review. In exchange, employers provide economic incentives to their employees to use PPO physicians.

Your PPO is not an insurance plan. Employers remain self-funded or retain their existing insurance carriers, and because current benefit plans are maintained, fee-for service compensation is preserved.

FEE SURVEYS SENT OUT

On October 24, 1986, a confidential physician fee survey was sent out to all NCMS members. Please return the completed surveys to our consultants, Deloitte Haskins & Sells, 2100 Southern National Center, Charlotte 28202 as soon as possible. If you did not receive a confidential fee survey or if you have any questions, please call Carolina Doctors Care at 1/800/331-2877 or 919/828-1789.

PPO PRESENTATIONS

Presentations on our PPO are being given throughout the state to inform physicians about the organization and its potential and purpose. If you'd like to set one up in your area call Carolina Doctors Care.

Become a participating physician in the Carolina Doctors Care PPO. This is your organization, sponsored by your North Carolina Medical Society to assist you in fulfilling your professional responsibility by assuring physician input into health care policy decisions and the reallocation of the dollars saved by high-quality cost effective health care delivery by patients, employers and physicians.

CARE DOCTORS™

The Preferred Medical Network.

Carolina Doctors Care
P.O. Box 27987
Raleigh, North Carolina 27611

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Allan Braziel Hatch (STUDENT), 127 Avery St., Apt. #3, Greenville 26834

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Tor Martin Ljung (STUDENT), PO Box 788, Winterville 28590

Deborah Louise London (STUDENT), 508 Circle Dr., Greenville 27834

William Michael Mahaffey (STUDENT), E-8 Doctor's Park Apts., Greenville 27834

William Glenn Masius (STUDENT), 107 N. Oak St., Apt. #4, Greenville 27858

Alfred Thomas May, III (STUDENT), 25-G Courtney Square, Greenville 27858

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Charles Kenneth Mitchell, Jr. (STUDENT), 1400 Hooker Rd., Apt. E, Greenville 27834

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Eva Mann O'Neal (STUDENT), 1924 White Hollow Dr., Greenville 27858

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Doris Catherine Pate (STUDENT), Medical Oaks Apts. #C-2, Greenville 27834

Vijesh Kanchanlal Patel (STUDENT), 108 Steward Lane, Greenville 27834

Billy Lee Price, Jr (STUDENT), C-6 Sheraton Village, Greenville 27834

Dellmer Bernheim Seitter, III (STUDENT), 201 Pineridge Dr., Greenville 27834

Patrick William Slater, II (STUDENT), Rt. L, Box 379, Princeton 27569

James David Smith (STUDENT), 25-G Courtney Square, Greenville 27858

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Continuing Medical Education

Please note: The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina (ECU) and UNC Schools of Medicine, Dorothea Dix, and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or cosponsored by these schools automatically qualify for AMA Category I credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been obtained, this also is indicated.

IN STATE

January 21

GI Update: Cancer Surveillance and the Role of Biopsy in Gastrointestinal Diseases (GI)
Place: Greenville
Fee: $55
Credit: 7 hours Category I AMA
Info: The Office of CME, ECU School of Medicine, Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

February 11

The Psychiatric Aspects of Life Threatening lllness
Place: Greenville
Fee: $30
Credit: 3.5 hours Category I AMA
Info: The Office of CME, ECU School of Medicine, Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

February 20

Pediatrics Day 1987
Place: Greenville
Fee: $55
Credit: 6 hours Category I AMA
Info: The Office of CME, ECU School of Medicine, Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

March 5-12

Review of Clinical Chemistry for Practicing Pathologists & Clinical Chemists
Place: Greenville
Fee: $315
Credit: 40 hours Category I AMA
Info: The Office of CME, ECU School of Medicine, Box 7224, Greenville 27835-7224. 919/758-5200, ext 28

March 11

Family Practice Update '87
Place: Greenville
Fee: $55
Credit: 7 hours Category I AMA
Info: The Office of CME, ECU School of Medicine, Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

March 21

Eighth Annual Pulmonary Disease Update
Place: Greenville
Fee: $55
Credit: 6.5 hours Category I AMA
Info: The Office of CME, ECU School of Medicine, Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

March 26-27

Growth Control and Cancer: Molecular Approaches and Clinical Implications
Place: Chapel Hill
Info: Dianne Shaw, Lineberger Cancer Research Center, School of Medicine, University of North Carolina, Chapel Hill 27514. 919/966-3036

April 3

Rehabilitation Medicine: Head Injuries
Place: Greenville
Credit: 7 hours Category 1 AMA
Info: Office of CME, ECU School of Medicine, P.O. Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

April 3-5

Sixth Annual Ultrasound Symposium
Place: Greensboro
Credit: 16 hours Category I AMA
Info: Sharon Hughes, President, NC Ultrasound Society. 919/748-4505

April 9

North Carolina Clinical Neuro-Ophthalmology Review
Place: Chapel Hill
Info: Baird S. Grimson, M.D., Dept of Ophthalmology, University of North Carolina, 617 Clinical Science Bldg. 229H, Chapel Hill 27514. 919/966-5296

April 10

Plasma Cell Myeloma and Related Diseases
Place: Durham
Credit: 6 hours Category I AMA
Fee: $75
Info: Myeloma Symposium, Box 3096 DUMC, Durham 27710

April 10-11

Advanced Cardiac Life Support Provider Course
Place: Asheville
Credit: 16 hours Category I AMA
Fee: $200
Info: Daniel L. Dolan, M.D., MAHEC, 501 Biltmore Ave., Asheville 28801-4686. 704/258-0881

April 22

Neonatal Emergencies: Recognition and Treatment
Place: Greenville
Credit: 6 hours Category 1 AMA
Fee: $55
Info: Office of CME, ECU School of Medicine, P.O. Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

Nursing

Except where otherwise noted, contact Nettie Wilburn, CPS, Office of Continuing Education, University of North Carolina, Chapel Hill 27514. 919/966-3638.

January 13 - April 21

Comprehensive Gerontological Nursing
Place: Greenville
Credit: 2 Graduate; 3 CEUs
Fee: $3

January 16 - May 15

Child and Adolescent Nurse: Caring for the Ill Child
Place: Chapel Hill
Credit: 3.97 CEUs
Fee: $270

January 20

Rehabilitating Nursing: Integration with Therapy (AREN video conference)
Place: Durham
Info: Prof. Robert Bartlett, Dept of Physical Therapy, Box 3965 DUMC, Durham 27710. 919/684-2650

February 12-13

Communication Skills for the Nurse Manager
Place: Chapel Hill
Credit: 1.32 CEUs
Fee: $150

February 19-20

Human Response to AIDS — Coping and Caring
Place: Chapel Hill
Credit: 1.32 CEUs
Fee: $70

February 20-21
Writing and Publishing
Place: Chapel Hill
Credit: 2.04 CEUs
Fee: $180

OUT OF STATE

January 19-23
Diagnostic Radiology Seminars
Place: Ixtapa, Mexico
Credit: 22 hours Category I AMA
Fee: $495
Info: Radiology Postgraduate Education, University of California, Room C324, Third & Parnassus Ave., San Francisco, CA 94143-0628. 415/476-5731

January 26-29
Alton D. Brashear Postgraduate Course in Head & Neck Anatomy
Place: Richmond, VA
Fee: $225-$375
Credit: 40 hours AGD, AAGP
Info: Hugo R. Seibel, M.D., Dept. of Anatomy, Box 709, Medical College of Virginia, Richmond, VA 23298

January 29-31
Cardiology '87: Controversies in Therapy
Place: San Diego, CA
Credit: 18 hours Category I AMA
Fee: $275, $200 nurses
Info: Nomi Feldman, Conference Coordinator, 3770 Tansy, San Diego, CA 92121. 619/453-6222

January 30 - February 1
Sixth Annual Perspectives on New Diagnostic and Therapeutic Techniques in Clinical Cardiology
Place: Lake Buena Vista, FL
Fee: $315 ACC members; $380 non-members
Credit: 14.5 hours Category I AMA; AAFP
Info: Extramural Programs Dept., American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 301/897-5400, ext. 226; 800/253-INFO

February 1-6
Diagnostic Radiology Seminars
Place: Aspen, CO
Credit: 26 hours Category I AMA
Fee: $495
Info: 415/476-5808

February 2-4
Anatomic Basis for New Cardiac Imaging Techniques
Place: Bethesda, MD
Fee: $415 ACC members; $465 non-members
Credit: 17.5 hours Category I AMA
Info: Heart House Learning Center, American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 301/897-5400; 800/253-INFO

February 3-8
16th Annual Pediatric Postgraduate Course
Place: Palm Springs, CA
Credit: 18 hours Category I AMA
Info: Ann J. Boehme, Schneider Children's Hospital of Long Island Jewish Medical Center, New Hyde Park, NY 11042. 718/470-8650

February 10-13
Cardiopulmonary Rehabilitation: Status '87
Place: Orlando, FL
Fee: $275; $175 Nurse, Therapist, Allied Health Professional
Credit: 19.5 hours Category I AMA
Info: Kathy Liebhauser, Division of CME, 1938 West University Ave., Gainesville, FL 32603. 904/392-1701

February 20-21
Flexible Fiberoptic Sigmoidoscopy
Place: Augusta, GA
Info: Division of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

February 21-28
Duke at Vail: Symposium on Inflammatory Diseases
Place: Vail, CO
Credit: 20 hours Category I AMA
Fee: $350; $250 Residents and Interns
Info: Angelika Langen, Box 3135 DUMC, Durham 27710. 919/684-2504

February 22-25
Rheumatology at Snowshoe
Place: Snowshoe, WV
Credit: 15 hours Category I AMA
Fee: $225
Info: Office of CME, West Virginia University School of Medicine, G-104 Basic Sciences Bldg., Morgantown, WV 26506. 304/293-3937

February 22-27
Diagnostic Imaging: Update 1987
Place: Park City, UT
Credit: 24.5 hours Category I AMA
Fee: $495
Info: 415/476-5808

February 23-28
6th Annual West Coast Symposium in Doppler Ultrasound
Place: Newport Beach, CA
Credit: 30 hours Category I AMA
Info: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Dr., Ste 215, Laguna Niguel, CA 92677. 714/495-4499

February 23-28
Symposium in Doppler & 2-D Echocardiography
Place: San Antonio, TX
Fee: $895
Credit: 40 hours Category I AMA
Info: Lisa Krehbiel, 30131 Town Center Dr. #215, Laguna Niguel, CA 92677. 714/495-4499

February 25-28
The Nineteenth Teaching Conference in Clinical Cardiology
Place: Bal Harbour, FL
Fee: $400; $375 Fellows & members AHA Council on Clinical Cardiology; $250 physicians in training
Credit: 28 hours Category I AMA; AAFP
Info: Michael S. Gordon, M.D., Ph.D., University of Miami School of Medicine (D-41), P.O. Box 016960, Miami, FL 33101. 305/547-6491

February 26-28
Cardiovascular Surgery
Place: Bethesda, MD
Credit: 18 hours Category I AMA
Fee: $415 ACC members, $465 non-members
Info: Program Registrar, Heart House Learning Center, American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814, 301/897-5400, ext 241, or 800/253-INFO

February 27-28
Advance Trauma Life Support
Place: Mountain Home, TN
Info: Ramona Miller, Ph.D., Office of CME, Quillen-Dishner College of Medicine, Johnson City, TN 37614. 615/929-6204

March 1-7
Update '87: Office Obstetrics and Gynecology
Place: Park City, UT
Info: Charlene E. Lee, Scott & White Memorial Hospital, 2401 South 31st St., Temple, TX 76508. 817/774-4073

March 2-7 (and April 27-May 2)
22nd Annual Family Practice Symposium
Place: Augusta, GA
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

March 4-8
Pan American Allergy Society Annual Training Course & Seminar
Place: San Antonio, TX
Fee: $415 members
Info: Betty Kahler, PAAS, 229 Parking Way, Lake Jackson, TX 77566. 409/297-8964 or 297-4069

March 6-7

Cardiology Department Management Conference
Place: New Orleans, LA
Credit: 10 hours Category I AMA
Fee: $350 approx.
Info: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Dr. Ste. 215, Laguna Niguel, CA 92677. 714/495-4499

March 7-8

Breast Imaging Update
Place: San Francisco, CA
Credit: 13 hours Category I AMA
Fee: $295
Info: 415/476-5808

March 8-13

Annual Meeting, US-Canadian Division of the International Academy of Pathology
Place: Chicago, IL
Info: Nathan Kuafman, M.D., Secretary-Treasurer, US-Canadian Division, International Academy of Pathology, Bldg. C, Ste. B, 3515 Wheeler Rd., Augusta, GA 30909. 404/733-7550

March 9-13

Hawaii '87: Critical Issues in Primary Care
Place: Kauai, HA
Credit: 20 hours Category I AMA, AAFP
Info: The Pacific Institute of CME, P.O. Box 1059, Koloa, Kauai, HA 96756. 808/742-7471

March 9-13

Diagnostic Radiology
Place: San Francisco, CA
Credit: 34 hours Category I AMA
Fee: $495
Info: 415/476-5808

March 14-15

Contemporary Trends in Diagnostic Nuclear Medicine
Place: San Francisco, CA
Fee: $352
Info: 415/476-5808

March 16-20

Diagnostic Imaging 1987
Place: Kauai, HI
Credit: 24 hours Category I AMA
Fee: $495
Info: 415/476-5808

March 29-April 1

Cardiology Update
Place: Phoenix, AZ
Credit: 26 hours Category I AMA
Fee: $395 approx.
Info: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Dr. Ste 215, Laguna Niguel, CA 92677. 714/495-4499

April 3-5

Ophthalmologic Plastic Surgery, Orbital Disease, and Neuro-Ophthalmology
Place: Williamsburg, VA
Fee: $315
Info: Kay Parrott, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 9-11

Thoracic Imaging Update
Place: Monterey, CA
Credit: 13 hours Category I AMA
Fee: $295
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OB/GYN and Abdominal Sonography: Update '87
Place: San Francisco, CA
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April 10-12

5th Annual MCV Symposium: New Trends in Anesthesia
Place: Williamsburg, VA
Fee: $275
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 10-12

22nd Annual Pediatric Springfest
Place: Williamsburg, VA
Fee: $250
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 23-25

23rd Annual Postgraduate Course in Radiology: The Chest
Place: Richmond, VA
Fee: $325
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 24-26

9th Annual Conference on Emergency Medicine for the Primary Care Physician
Place: Williamsburg, VA
Fee: $295
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 24-26

7th Annual Clinical Concerns in Primary Care: Office Cardiology
Place: Williamsburg, VA
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April 27-May 2 (and March 2-7)

22nd Annual Family Practice Symposium
Place: Augusta, GA
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

May 8-10

6th Annual MCV Cardiology Conference
Place: Williamsburg, VA
Fee: $325
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

May 18-19

14th Annual Hans Berger Day and EEG Symposium
Place: Richmond, VA
Fee: $250
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

May 23-25

Gynecologic Urology and Pelvic Surgery
Place: Williamsburg, VA
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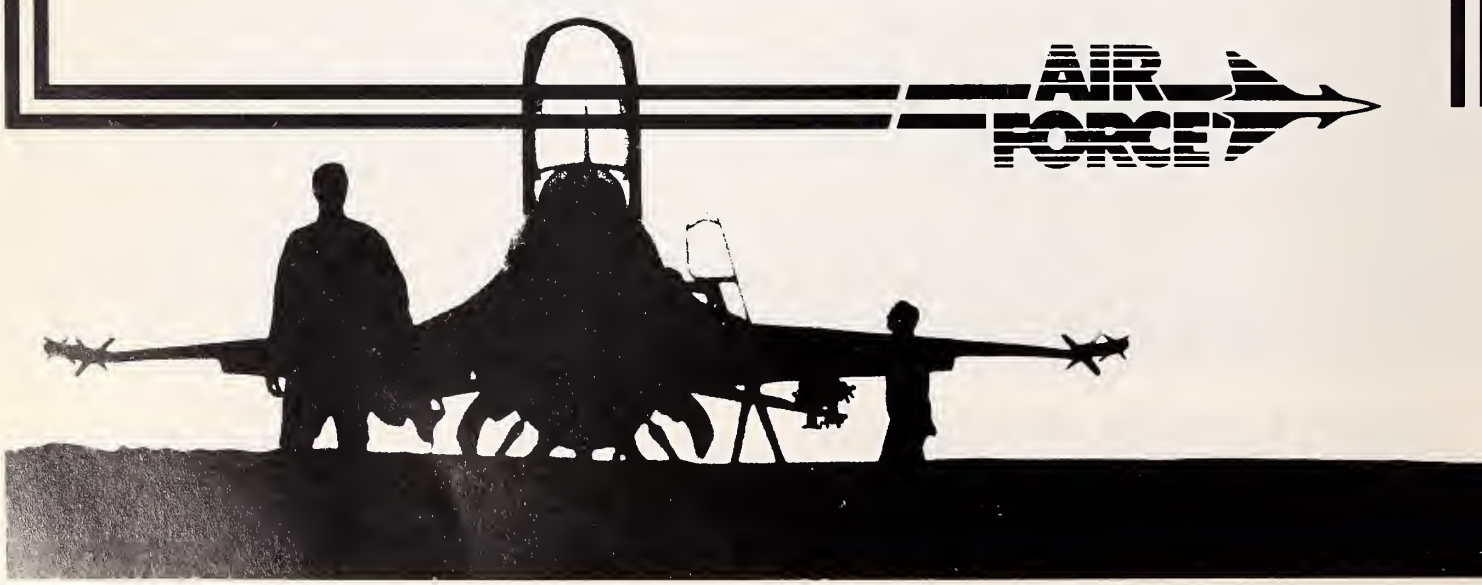
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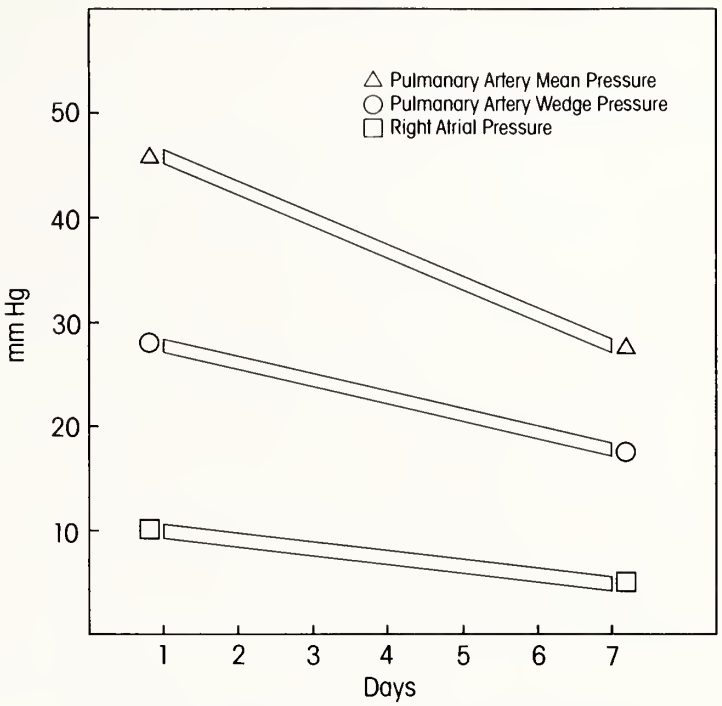
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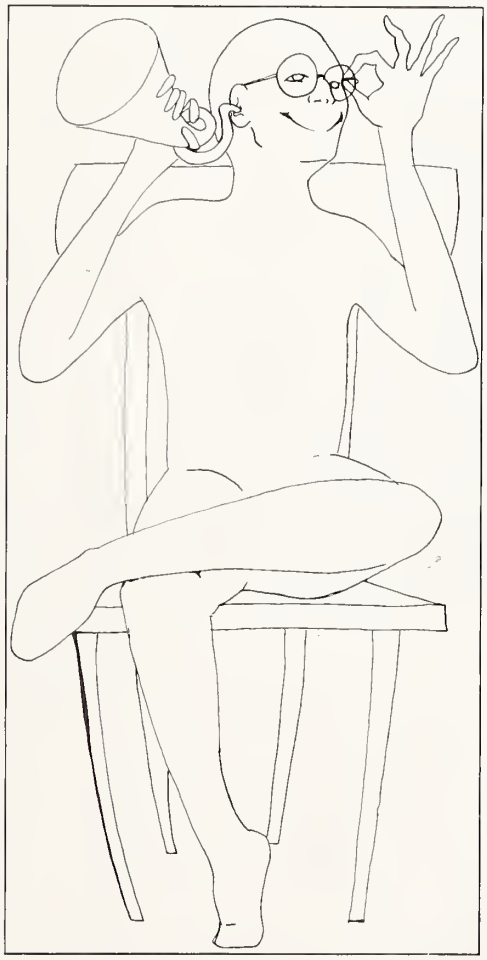
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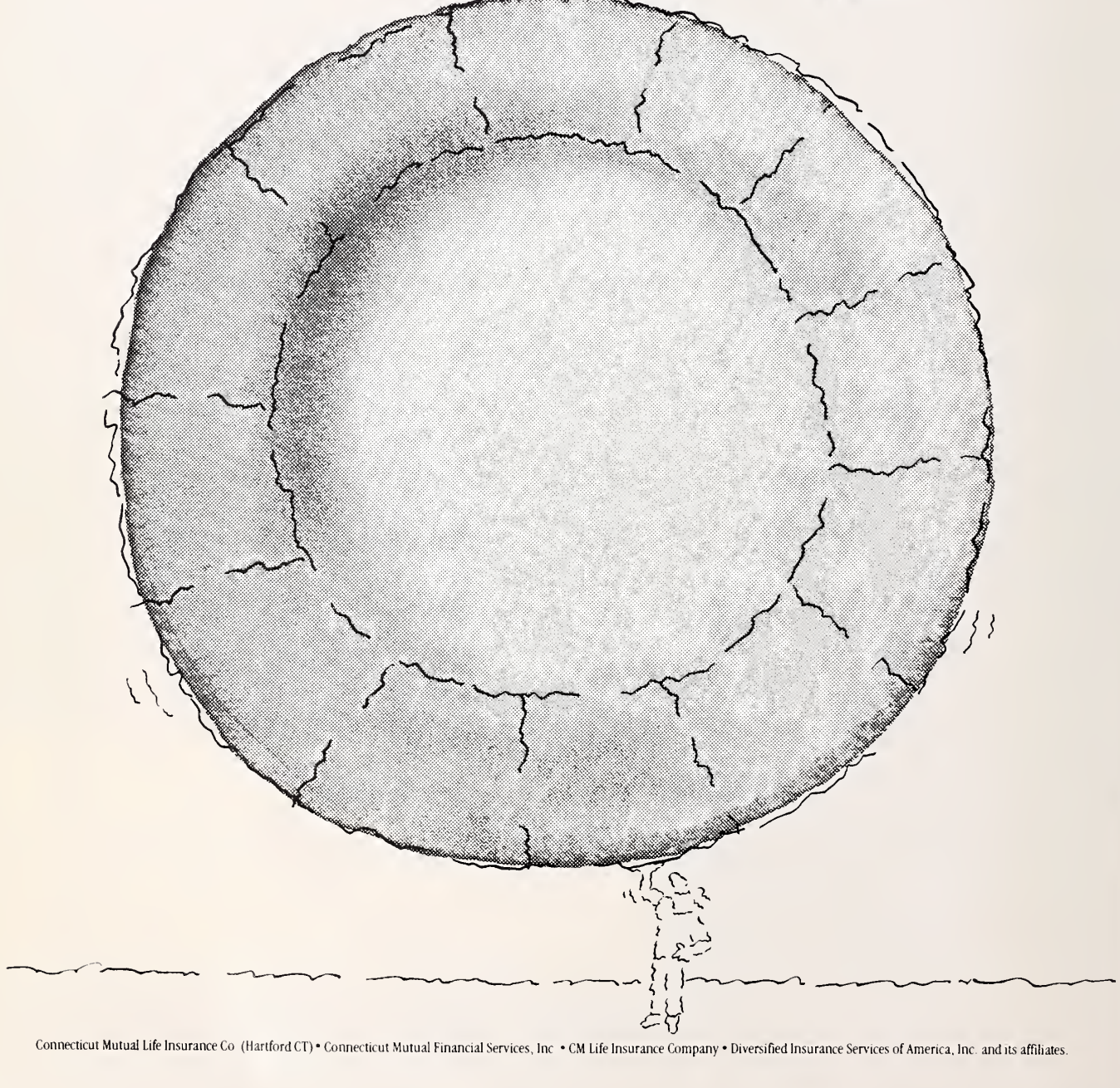
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BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR.)*

INDERAL® LA brand of propranolol hydrochloride **(Long Acting Capsules)**

DESCRIPTION. Inderal LA is formulated to provide a sustained release of propranolol hydrochloride. Inderal LA is available as 80 mg, 120 mg, and 160 mg capsules.

CLINICAL PHARMACOLOGY. INDERAL is a nonselective beta-adrenergic receptor blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta-adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg for mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

The mechanism of the antihypertensive effect of INDERAL has not been established. Among the factors that may be involved in contributing to the antihypertensive action are (1) decreased cardiac output, (2) inhibition of renin release by the kidneys, and (3) diminution of tonic sympathetic nerve outflow from vasomotor centers in the brain. Although total peripheral resistance may increase initially, it readjusts to or below the pretreatment level with chronic use. Effects on plasma volume appear to be minor and somewhat variable. INDERAL has been shown to cause a small increase in serum potassium concentration when used in the treatment of hypertensive patients.

In angina pectoris, propranolol generally reduces the oxygen requirement of the heart at any given level of effort by blocking the catecholamine-induced increases in the heart rate, systolic blood pressure, and the velocity and extent of myocardial contraction. Propranolol may increase oxygen requirements by increasing left ventricular fiber length, end diastolic pressure and systolic ejection period. The net physiologic effect of beta-adrenergic blockade is usually advantageous and is manifested during exercise by delayed onset of pain and increased work capacity.

In dosages greater than required for beta blockade, INDERAL also exerts a quinidine-like or anesthetic-like membrane action which affects the cardiac action potential. The significance of the membrane action in the treatment of arrhythmias is uncertain.

The mechanism of the antimigraine effect of propranolol has not been established. Beta-adrenergic receptors have been demonstrated in the pial vessels of the brain.

Beta receptor blockade can be useful in conditions in which, because of pathologic or functional changes, sympathetic activity is detrimental to the patient. But there are also situations in which sympathetic stimulation is vital. For example, in patients with severely damaged hearts, adequate ventricular function is maintained by virtue of sympathetic drive which should be preserved. In the presence of AV block, greater than first degree, beta blockade may prevent the necessary facilitating effect of sympathetic activity on conduction. Beta blockade results in bronchial constriction by interfering with adrenergic bronchodilator activity which should be preserved in patients subject to bronchospasm.

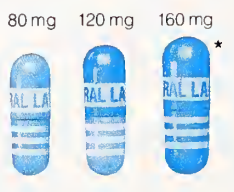
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ONCE-DAILY

INDERAL® LA

(PROPRANOLOL HCl)

LONG ACTING CAPSULES



INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension; it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock; 2) sinus bradycardia and greater than first degree block; 3) bronchial asthma; 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

WARNINGS. CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, e.g., dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case, this resulted after an initial dose of 5 mg propranolol.

PRECAUTIONS. *General:* Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

Clinical Laboratory Tests: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

Pregnancy: Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers: INDERAL is excreted in human milk. Caution should be exercised when INDERAL is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: bradycardia, congestive heart failure; intensification of AV block; hypotension; paresthesia of hands; thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type.

Central Nervous System: lightheadedness; mental depression manifested by insomnia, lassitude, weakness, fatigue; reversible mental depression progressing to catatonia; visual disturbances; hallucinations; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics.

Gastrointestinal: nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory: bronchospasm.

Hematologic: agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily. If patients are switched from INDERAL tablets to INDERAL LA capsules, care should be taken to assure that the desired therapeutic effect is maintained. INDERAL LA should not be considered a simple mg for mg substitute for INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitration may be necessary especially to maintain effectiveness at the end of the 24-hour dosing interval.

HYPERTENSION—*Dosage must be individualized.* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood-pressure control is achieved. The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage of 640 mg may be required. The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three to seven day intervals until optimum response is obtained. Although individual patients may respond at any dosage level, the average optimum dosage appears to be 160 mg once daily. In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

MIGRAINE—*Dosage must be individualized.* The initial oral dose is 80 mg INDERAL LA once daily. The usual effective dose range is 160-240 mg once daily. The dosage may be increased gradually to achieve optimum migraine prophylaxis. If a satisfactory response is not obtained within four to six weeks after reaching the maximum dose, INDERAL LA therapy should be discontinued. It may be advisable to withdraw the drug gradually over a period of several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use.

*The appearance of these capsules is a registered trademark of Ayerst Laboratories.

REFERENCES:

1. INDERAL LA National Compliance Evaluation Program. Data on file, Ayerst Laboratories.
2. Ravid M, Lang R, Jutrin I: The relative antihypertensive potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily. *Arch Intern Med* 1985;145:1321-1323.

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SPECIAL ARTICLE

Medical Review of North Carolina — Update on Medicare Review

D. John Godehn, Jr., M.D.

ON August 1, 1986, Medical Review of North Carolina, Inc. (MRNC) began its second two-year contract for Peer Review Organization (PRO) Medicare review. Although MRNC must perform review under stringent guidelines from the Health Care Financing Administration, and although MRNC's budget was reduced by almost $1 million from its previous contract, the organization continues to feel that keeping control and responsibility for review in the hands of the state's physicians is in everyone's best interest.

MRNC believes that broad physician involvement is critical to the success of true peer review. Currently over 2,500 North Carolina physicians are members of MRNC, and over 500 physicians in active practice serve as reviewers. While medical records are screened initially by nonphysician reviewers using established criteria, all review decisions are made by physicians.

All physician reviewers of a case must concur for an adverse decision to be final. Although reviewers attend instructional sessions and are expected to follow MRNC-developed guidelines, such as the directive that close calls be made in favor of the attending physician, reviewers are nonetheless expected to use independent judgment in making their decisions.

Reviewer discretion sometimes can cause inconsistencies in review decisions, and decisions with which the attending may disagree, but such freedom is felt most compatible with true peer review and helps avoid the creation of rigid standards of care. Reviewer performance is monitored by MRNC. MRNC also must periodically send samples of reviewed cases to Super PRO, an organization in California, for evaluation of the quality of its reviews.

Emphasis on Quality of Care Review

During the initial PRO contract period, the Health Care Financing Administration (HCFA) placed major emphasis on utilization review. Review for quality of care tended to be incidental. Because of concern from many quarters that the Prospective Payment/Diagnosis Related Grouping (DRG) system could engender premature discharging and other decreases in quality care, Congress has mandated that quality review be a prime activity in the present PRO contracts. Moreover, it stipulated that severe penalties be imposed against physicians or hospitals found to have provided poor quality care. Therefore, in addition to review for appropriateness of admission and DRG validation, each case reviewed by the MRNC for any reason now will be subjected to review for quality of care using HCFA-mandated generic screens.

The HCFA quality screens will provide for the monitoring of such areas as medical stability of the patient at the time of discharge, hospital deaths, nosocomial infections, and unscheduled return to the operating room. All readmissions within 15 days will be reviewed to determine if necessary care was provided during the first admission and if the patient was medically stable at the time of discharge. Other quality-of-care issues include inappropriate patient management which results or may result in patient harm, and failure of the medical record to document provision of appropriate care. Copies of all of these screens have been provided to each hospital by MRNC and should be available to their medical staffs.

If application of the generic screens identifies a case as a potential quality problem, it will be referred to a physician reviewer. If this reviewer feels a quality problem may exist, the attending physician will be notified and asked to provide clarifying information. The medical record and this additional information are then reviewed by a second physician. At least one of the physician reviewers must be of the same specialty as the attending physician. If both physician reviewers concur that a quality problem exists, the attending physician will be notified of the finding and of the potential seriousness of the situation. As part of the review procedure, each reviewer will assign a quality Severity Level Index (SLI) to the case, ranging from one (no quality problem) to five (significant patient harm or significant potential for such harm). Generally, for quality problems of moderate severity (SLI three or four), action will be taken against the physician only when a pattern of poor quality emerges. For serious problems (SLI five), the case will be referred immediately to the three-physician Quality Review Panel at MRNC. The panel reviews the case, and may recommend initiation of sanction proceedings against the physician.

There are certain situations in which federal guidelines mandate specific punitive measures against a physician or hospital. The so-called "prohibited actions," which a physician or hospital must be particularly careful to avoid, include discharge before the patient is medically stable resulting in readmission to the same hospital. If such an action occurs, payment for the second admission is denied and the provider may be placed on intensified review. If

From 506 Park Hill Court, Suite 1, Hendersonville 28739

three episodes occur within a three-month period, sanctions must be instituted against the physician or hospital. Moreover, if the prohibited action results or could result in serious patient harm or death (a so-called "gross and flagrant violation"), then sanctions *must* be initiated against the provider based on that single case.

Thus, keys for physician survival under the scrutiny of peer review would seem to be: admit only when necessary; provide good-quality care; discharge or transfer only when the patient is clearly ready; and clearly document the care given and its rationale, particularly when best judgment dictates care that deviates from established criteria or norms.

Short Stay and Ambulatory Surgery Admissions

MRNC has noted some confusion regarding the appropriateness of admissions for short stays and for normally ambulatory surgical, diagnostic or therapeutic procedures. Its review policy, based on federal guidelines, is that if hospital-level care of 24 hours or less is necessary, then the patient should not be admitted under the Prospective Payment System (DRG payment). Rather the patient should be handled as an ambulatory case or short-stay admission and billed under Medicare Part B.

Generally, patients should not be admitted for procedures on MRNC's Ambulatory Surgery List, unless during the post-procedure observation period a complication arises requiring inpatient care. Predisposing medical or social factors for increased surgical risk do not automatically justify admission for such procedures unless during the postoperative period a need for prolonged hospital care of greater than 24 hours becomes apparent and is documented. Likewise, if a patient is seen in the Emergency Department or clinic and the need for admission is not completely clear, a potentially inappropriate admission — one that could be denied on review — should be avoided, and the patient should be managed or observed on an outpatient status for up to 24 hours while the need for admission clarifies itself.

This policy does not require that the hospital establish a separate observation unit. The patient could be managed using normal hospital facilities, but handled administratively as an ambulatory patient for billing purposes during the short stay or observation period. □

Call for Nominations
John Huske Anderson Award

North Carolina Medical Society members are invited to submit nominations for the John Huske Anderson Award, "presented to those laymen whose contributions have had a positive impact on the medical profession and the public health in the manner exemplified by John Huske Anderson."

Recognition of award recipients shall include a permanent plaque to be displayed at the headquarters of the Medical Society in Raleigh.

Nominations should consist of a letter and any appropriate supporting documents, and should be sent by February 27 to:

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SCIENTIFIC ARTICLE

Pituitary Tumors in Eastern North Carolina

George Crawley, M.S., and William W. Fore, M.D.

• *A review of the pituitary surgical experience of Eastern Carolina Neurosurgical Associates, Inc.*

PITUITARY tumors are not uncommon. One unselected autopsy study found pituitary tumors in 27% of those studied.[1] Even though not all of these tumors cause problems, many patients do become symptomatic and many times the cause of their symptoms is not recognized until the tumors are large and/or the endocrine abnormalities are far advanced. Small pituitary tumors can be treated medically or by a less disfuguring and safer transsphenoidal approach. Early diagnosis and transsphenoidal surgery are frequently associated with normal postoperative endocrine function, especially if the neurosurgeon can leave a portion of normal pituitary tissue in place.

The technique of transsphenoidal surgery for pituitary resection has been an available therapeutic option at Pitt County Memorial Hospital (PCMH) since 1976. Since that time, 48 patients from eastern North Carolina have had surgery for pituitary adenomas. Recent interest in the medical treatment of pituitary adenoma and questions about the efficacy of surgery in producing long-term cure led us to review our experience with pituitary surgery at PCMH. We have suspected for some time that our patients have more advanced tumors than those reported in other hospitals.[2-5] Our study compares our experience to that of others.

Methods

Data were obtained by chart review of all patients who have undergone pituitary surgery at PCMH since 1976. All the surgery was performed by Eastern Carolina Neurosurgical Associates (ECNA). We identified 48 patients representing 49 operations over the last 10 years. There were 27 women and 21 men in our series and 42% were black. The average age of the patients was 48 years, with a range from 14 to 82 years. Patients who had not been seen in the past two years were asked their health status including any currently used medications. We sent out 22 letters and received 17 responses; five patients were not available for accurate follow-up.

Results

Using their preoperative endocrine evaluations, we could classify our patients as hyperfunctional (prolactinoma, acromegaly, Cushing's), normal endocrine function, or hypofunctional. Forty percent of the tumors were hyperfunctional, 30% were hypofunctional, and 26% had no detected endocrine abnormality. Most patients in the hypofunctional category showed clinical signs of panhypopituitarism that were mentioned in their chart records, although in some cases this was not documented by preoperative laboratory work, especially the earlier cases from 1976 to 1980 when prolactin, human growth hormone (HGH), and adrenocorticotropic hormone (ACTH) assays were not as readily available.

Our patients presented most often with visual difficulty (47%) and headache (33%) (table 1). Vision problems included temporal hemianopsia, "deteriorating" vision, diplopia, and visual field cuts. The combination of visual difficulty with a functioning pituitary tumor was uncommon; only two of our patients who presented with visual symptoms had evidence of excess hormonal secretion. The other patients with visual field problems had normal or hypofunctional endocrine status.

Table 1
Pituitary Tumor Patients — Presenting Symptoms and Signs

	*% of Pts. with Symptoms**
Visual Symptoms	46%
Headache	33%
Amenorrhea and/or Galactorrhea	19%
Weakness	19%
Gynecomastia and/or Impotence	6%
Diabetes Mellitus and Hypertension	6%
Acral Enlargement	4%
Other (Sinusitis, Dyspnea, Incidental Sellar Enlargement)	6%

*Patients often had more than one symptom.

Hyperprolactinemia was the most common endocrine abnormality. Twenty-four percent of our patients showed symptoms of secondary amenorrhea/galactorrhea in women and gynecomastia and/or impotence in men. Problems due to hyperadrenalism and growth hormone excess were less common, with only three patients with Cushing's syndrome and four acromegalic patients identified.

Of the 49 operations, 37 (74%) were performed by the transsphenoidal route and 12 (26%) by transfrontal cran-

From Section of Endocrinology & Metabolism, School of Medicine, East Carolina University, Greenville 27858-4354.

iotomy. Transsphenoidal surgery was the procedure of choice unless a contraindication existed. The indications for transsphenoidal surgery are: (1) tumors confined to the sella turcica; (2) tumors associated with cerebrospinal rhinorrhea or pituitary apoplexy; (3) tumors with sphenoid sinus extension; (4) patients with paracentral scotoma; (5) pituitary adenomas with suprasellar extension confined to midline.

Transfrontal craniotomy was associated with a higher morbidity and longer hospital stay averaging 16.2 days, while transsphenoidal patients averaged only 8.8 days in the hospital. Of the twelve patients with transfrontal surgery, six had complications. Two patients have permanent diabetes insipidus from impairment of antidiuretic hormone secretion, and one of these patients also had cerebrospinal fluid rhinorrhea (CSF leak) which was treated conservatively. Two patients suffered bone flap necrosis. One patient had oculomotor nerve damage and another had olfactory nerve damage.

The one death listed in our transsphenoidal series (table 2) was from pulmonary embolus six days postoperatively. One patient hemorrhaged from the right cavernous sinus and subsequently lost an estimated 3,000 ml of blood before hemostasis was achieved. A case of meningitis occurred in the same patient who suffered permanent diabetes insipidus, and this patient also exhibited CSF leak.

We identified five women with preoperative prolactin ≤200 ng/ml. Postoperatively, two women achieved normal prolactin levels and two remained hyperprolactinemic. One woman has not had a postoperative prolactin determination. Clinically, the two women with normal prolactin values and the one without postoperative prolactin determination have resumed irregular menses and their galactorrhea has resolved. One woman, who remains hyperprolactinemic, has resumed menses but still has galactorrhea. The other hyperprolactinemic patient continues to have amenorrhea/galactorrhea. Patients who have microadenomas *and* a preoperative prolactin level ≤200 ng/ml have the highest surgical cure ratio.[6,7]

Six men and four women were identified with preoperative prolactin in excess of 200 ng/ml. Only one man has a normal postoperative PRL from this group. The four women have remained amenorrheic, but galactorrhea has resolved in three of them. A preoperative prolactin level of ≤200 ng/ml is associated with an increased cure ratio, compared to patients with a preoperative level of >200 ng/ml.[6,8]

Table 2
Transsphenoidal Complications

	ENA		*2, 3, 4, 5*
	%	#	*Other Series*
Death	2.7	(1)	0.4 - 2.7%
Meningitis	2.7	(1)	0.49- 2.0%
Hemorrhage	2.7	(1)	0.49- 4.0%
CSF Leak	8.1	(3)	1.47- 6.4%
Permanent diabetes insipidus	2.7	(1)	2.4- 5.6%
Transient diabetes insipidus	21.6	(8)	3.6-28.0%
#Patients	37		825

Acromegaly was identified in four patients. Three of these patients now have normal HGH levels, while the fourth has a moderately elevated HGH level (12.4 ng/ml).

Cushing's disease was found in three patients. Two are in remission, while the third retains an elevated ACTH level and has recently undergone Bragg peak proton-beam irradiation to the sella.

Seventeen of our 23 patients who presented with visual deficits have improved vision, while six noted no improvement. None of these patients suffered further loss of vision after surgery. This indicates that the earlier one realizes that a pituitary tumor is responsible for visual loss, the better the prognosis.

Discussion

We found some significant differences between our cases and other published series: (1) patients with pituitary tumors in eastern North Carolina have larger tumors than most such patients; and (2) our percentage of patients presenting with visual deficits is more than double that of other series.[2,3] Patients with visual deficits are those whose tumors compress or involve the optic apparatus by extrasellar extension. We feel this symptom to be caused by a delay in diagnosis. Is the delay due to characteristics of our patient population?

We looked at socioeconomic reasons to explain this increased incidence of large tumors. Our patients are from a predominantly rural area, although 83% came from the larger towns in eastern North Carolina with better access to physicians than many eastern counties.

Only 61% of the patients or their spouses were employed; only 43% had health insurance coverage. Our patients reflected the racial mix of eastern North Carolina. As a group, our patients are different socioeconomically from most of the reported series from metropolitan areas and do represent a group that will visit physicians less often than insured neighbors.

What are the problems associated with late diagnosis? One of the major problems is that the surgeon must operate on very large tumors by transfrontal craniotomy instead of the safer and less disfiguring transsphenoidal surgery. The percentage of transfrontal craniotomies performed at PCMH is 10 times higher than that at Wilson in San Francisco.[2]

The second major problem is loss of vision. Earlier reviews of the ocular manifestations of pituitary disease found a higher incidence of visual problems than present in our series.[9-11] Visual problems occurred in 47% and are comparable with the patient series collected by Wray between 1974 and 1975 (44%),[12] but much higher than a consecutive review of patients in Montreal, Canada between 1976 and 1981 (12%).[13] Anderson strongly makes the point that the role of the ophthalmologist in this disease is changing. He recommends that an ophthalmologist be willing to question patients about reproduction and sexual dysfunction, examine the patients before turning off the room lights for eye examination, and perform visual fields in the evaluation of patients with headache.[14]

Our patients with hypopituitarism give special cause for concern. Since the clinical symptoms and signs point to the patient's problem, the tumor causing the hypopitui-

Table 3
Symptoms of Hypopituitarism

Deficiency	*Clinical Manifestation*
HGH	Fasting hypoglycemia
LH, FSH	Loss of sexual hair; oligomenorrhea; amenorrhea; ↓ libido; loss of firmness or testicular size; ↓ in facial hair
TSH	Hypothyroidism with normal or low TSH
ACTH	Loss of axillary hair in females; hypotension; history of difficult recovery from surgical stress
β-lipotropin (βLPH)	Decreased pigmentation

tarism might be discovered early enough that permanent visual deficit or a disfiguring transfrontal craniotomy could be avoided.

We believe that area physicians and ophthalmologists should consider pituitary tumors earlier in their differential diagnosis when seeing patients who present with some symptoms of hypopituitarism (table 3). Alertness to symptoms of hypopituitarism helps, but half of our patients with tumors large enough to compress the optic nerve had no endocrine deficit.

Continued compression of normal pituicytes by tumor will lead to secondary hypothyroidism. This condition has many of the same clinical features as primary hypothyroidism (cold intolerance, dry scaly skin and hair, lethargy, constipation, etc.), but there are a few clues that suggest secondary hypothyroidism. In women, a history of amenorrhea instead of menorrhagia is suggestive of hypothyroidism due to a tumor because of earlier loss of gonadotropins. Most importantly, patients with symptoms and signs of hypothyroidism have low or normal serum thyroid-stimulating hormone (TSH) levels. A serum TSH assay is mandatory to confirm that a pituitary tumor is not the cause of the hypothyroid state. These clues should alert the clinician to the possibility of a pituitary tumor.

Patients who have lost ACTH function generally have tumors large enough to produce other symptoms such as headache, visual field deficits, and deficiency of other anterior pituitary hormones. Nevertheless, one patient presented with acute adrenal insufficiency. Weakness, fatigue, and orthostatic hypotension are early symptoms, albeit vague ones. Morning values of serum cortisol ≤ 10 μg/dl or low 24-hour urine free cortisol tests are suggestive of adrenal insufficiency. Determining the cause of the adrenal failure can be difficult, but a rise in serum cortisol in response to exogenous ACTH administration occurs in pituitary disease. An acceptable stimulation test procedure is found on the package insert of the synthetic ACTH available in most hospital pharmacies.

Conclusion

There are numerous factors that have caused this patient group to have larger tumors and more visual problems. However, we want this review of our experience to alert physicians elsewhere to consider pituitary tumors as the source of symptoms in patients with headache, visual problems, loss of libido, and menstrual problems before the tumor has caused irreparable damage to the optic nerves or destroyed all functional pituitary tissue. □

Acknowledgement

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References

1. Burrow GN, Wortzman G, Rewcastle NB. Microadenomas of the pituitary and abnormal sellar tomograms in an unsellected autopsy series. N Eng J Med 1981;304:156.
2. Wilson CB, Dempsey LC. Transsphenoidal microsurgical removal of 250 pituitary adenomas. J Neurosurg 1978;48:13-22.
3. Kern EB, Pearson BW, McDonald TJ, Laws ER. Transseptal approach to lesions of the pituitary and parasellar regions. Laryngoscope 1979;89 (pt. 2, suppl 15):1-34.
4. Kenan PD. The rhinologist and the management of pituitary disease. Laryngoscope 1979;89 (pt. 2, suppl 14):1-26.
5. Gumprecht TF, Jafek BW. Transsphenoidal hypophysectomy. Ear Nose Throat J 1980;59:14-24.
6. Smallridge RC, Martins MC. Transsphenoidal surgery for prolactin-secreting pituitary tumors: a study of 28 cases and review of literature. South Med J 1982;75:963-8.
7. Bertrand G, Tolis G, Montes J. Immediate and long-term results of transsphenoidal microsurgical resection of prolactinomas in 92 patients. In: Prolactin and prolactinomas, ed. G. Tolis, et al. New York: Raven Press, 1983, pp. 441-52.
8. Gordon D, Richards A, Bulloch R, et al. Prolactin dynamics and tumor size in the prediction of surgical outcome for prolactinoma. Quart J Med, NS 54, 1985;214:141-51.
9. Chamlin M, Davidoff LM, Feiring EH. Ophthalmological changes produced by pituitary tumors. Am J Ophthalmol 1955;40:353-68.
10. Hollenhorst RW, Younge BR. Ocular manifestations produced by adenomas of the pituitary gland: analysis of 1000 cases. In: Diagnosis and treatment of pituitary tumors, ed. Kohler PO, Ross GT. Amsterdam: (International Congress Series no. 303), Excerpta Medica, 1973, p. 53.
11. Klauber A, Rasmussen P, Lindholm J. Pituitary adenoma and visual function: the prognostic value of clinical, ophthalmological and neuroradiologic findings in 51 patients subjected to operation. Acta Ophthalmol 1978;56:252-63.
12. Wray SH. Neuro-ophthalmologic manifestations of pituitary and parasellar lesions. Clin Neurosurg 1976;24:86-117.
13. Hardy J. Transsphenoidal microsurgery of prolactinomas: report on 355 cases. In: Prolactin and prolactinomas, ed. G. Tolis, et al. New York: Raven Press, 1983, pp. 431-40.
14. Anderson D, Faber P, Marcovitz S, et al. Pituitary tumors and the ophthalmologist. Amer Acad Ophth 1983;90:1265-70.

EDITORIAL

Catholicism and Ethics: A Reply to the Editorial Entitled "Sobering Thoughts"

Stanley Hauerwas, Ph.D., Professor of Theological Ethics

I have been asked to respond to the editorial, "Sobering Thoughts" (Crist et al, NCMJ 1986; 47:511), as well as the correspondence which that editorial elicited. It was thought that some more "objective" response might be useful. I have some acquaintance with medical protocols and, therefore, before responding to the substantive issues raised by the editorial, I should establish my credentials for providing a more "objective" reaction. I currently teach theology and ethics at the Divinity School at Duke University. I have taught at the University of Texas Medical Branch at Galveston as well as lectured at other medical schools and medical conventions. I have done work in the philosophy and history of medicine as well as medical ethics. I have recently published a book, *Suffering Presence* (University of Notre Dame, 1986), which deals with medicine from a theological perspective. Though I am a Protestant I taught in the Department of Theology at the University of Notre Dame for fourteen years. Though my time at Notre Dame may seem to qualify my ability to be objective, I think it helped me appreciate what an extraordinarily diverse and rich tradition and community Catholicism represents.

I must say, however, I find the editorial blatantly anti-Catholic. I suspect such anti-Catholicism derives more from ignorance than from clear anti-Catholic prejudice. North Carolina has fewer Catholics than any state in the Union. Those of us raised as Southerners often have little experience and/or knowledge of individual Catholics and even less of the Catholic Church as an institution. As a result, it is easier to attribute power and attitudes to Catholics that in fact are not the case exactly because we do not know them.

I can say that the view of Catholicism in the editorial is simply blatantly false. The Catholic Church is certainly no monolith in which the Vatican sets policy that becomes marching orders for bishops, much less individual Catholics. I saw many times activities and events sponsored at Notre Dame anger the local bishop, but he knew well that he should not, and he did not, intervene. That is not to say that the Catholic Church does not have clear moral statements about contraception and abortion. Yet even the official church is not of one mind about how those moral positions should be translated into law and/or policies for all societies. Indeed, part of the internal debate in the American Catholic Church concerning abortion is over the difficult issue of knowing how best to translate Catholic moral attitudes into societal expression in a society like ours. That is why many Catholics favor having an adequate family allowance for all people in our country rather than, or alongside, restrictive laws against abortion.

A more important issue raised by the editorial, however, has nothing to do with Catholicism per se. For the more important issue is whether any religiously committed people are prohibited from expressing their moral convictions politically if those convictions are correlative to their religious beliefs. These are extremely complex matters, both socially and legally in our society, but at least we should be clear about some things. Most importantly, it should be acknowledged that there is nothing in the Constitution that prohibits religious people and/or groups from trying to influence our government. Our Constitution does not, as is often alleged, erect a wall of separation between church and state. That is not a phrase in the Constitution. Neither the disestablishment clause nor the freedom of religion clause prohibits religious bodies per se from political involvement. How the disestablishment of religion in our Constitution is always to be harmonized with the freedom of religion is not easily resolved. What should be clear, however, is that religious convictions do not disqualify one from being an active citizen.

For example, I certainly hope that Catholics will continue to support the sanctuary movement in the southwestern part of the United States. Moreover, I think the Catholic Church has shown extraordinary sensitivity to the problem of how we are to treat justly the illegal immigrants who have been used in this country to provide cheap labor. In no way do I wish to prejudge how as a society we should finally resolve these issues, but at the very least I would not want the Catholic witness in these respects to be disqualified because they are Catholic.

The other set of important issues raised by the editorial that bear much more discussion are, of course, those dealing with birth control or, as the editorial puts it, with "the patient's right to reproductive freedom." I should like to point out that the latter phrase is question-begging as it is by no means clear that our society in fact believes in an unexceptional right of reproductive freedom. Sterilization is still on the books in many states. Would the authors of "Sobering Thoughts" support the "right of reproductive freedom" for mentally handicapped people who want to have children? Again I do not wish to prejudge this issue, though as one long associated with agencies committed to the care of the mentally handicapped, I think the issue is

From the Divinity School, Duke University, Durham 27708.

by no means as straightforward as many think. Rather all I wish to indicate is that phrases such as "right to reproductive freedom" often cover over issues that require much fuller examination.

In fact no policy, law, or people in our society prevent women from securing birth control if they want it. As far as I know there is no organized attempt on the part of Roman Catholics or anyone else in our society to try to outlaw the sale of condoms and/or the pill. I certainly know of no organized campaign of Roman Catholics against the IUD. There has been a discussion among Catholic moral theologians concerning whether the IUD ought to be understood as a contraceptive or abortive device but, as far as I know, that issue has not been resolved.

There are, however, very troubling issues involved in questions of whether the government should positively encourage women to use birth control. This is true even if such encouragement involves only providing birth control information and/or devices. This is particularly the case if, as the authors of the editorial obliquely suggest, such information is or should be aimed at population control. For as has often been pointed out in the literature concerning the ethics of such policy, what is sometimes done in the name of population control is in fact an attempt to target certain populations unjustly. That is why many in the black community protest against those who seem so concerned to "help" blacks secure abortions. In a racist society such as ours, a governmental program targeted at helping poor women have abortions can appear as threatening genocide. Whites tend to react to such a suggestion in unbelief, but if we had suffered from racism we might well view the matter quite differently.

I am in no way suggesting that governments should be prohibited from having a proper concern with population growth. Rather I am only suggesting that a much finer grain of moral analysis is required than that provided by the authors of "Sobering Thoughts." I have to confess that Senator Helms is a long way from my favorite senator, but we will make little headway on understanding these issues morally if we begin with political name-calling and/or fanciful political intrigue. If an editorial like "Sobering Thoughts" is an occasion for us to begin to think soberly about these issues then perhaps some good will have been done. □

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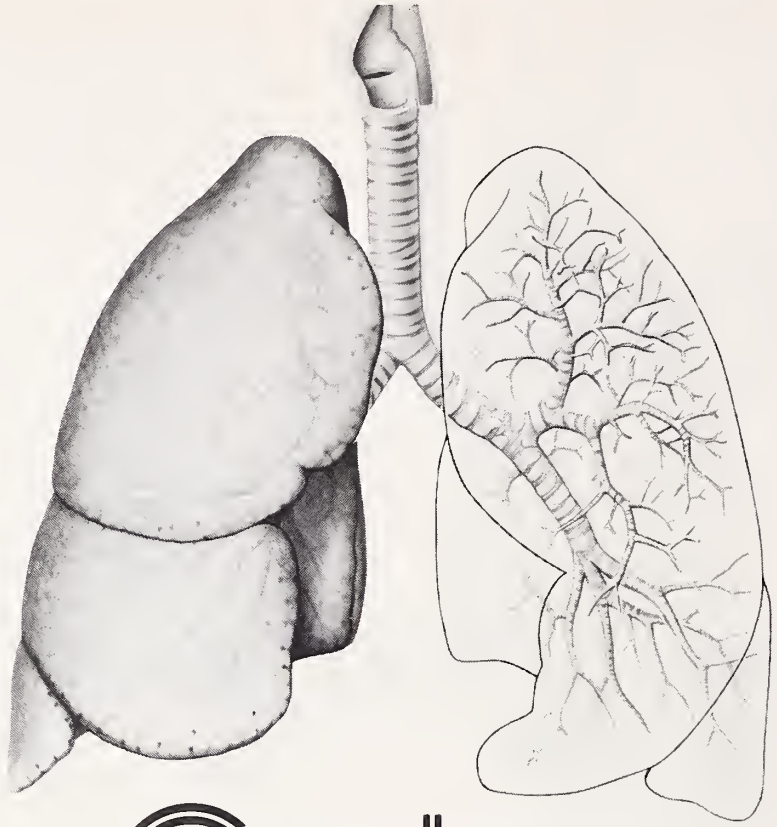
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- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, erythema multiforme, serum-sickness-like reactions): 1.5%; usually subside within a few days after cessation of therapy. These reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
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EDITORIAL

Are We Winning the War Against Cancer?

R. Wayne Rundles, M.D.

IN May 1986, John Bailar and Elaine Smith of the Department of Biostatistics, Harvard School of Public Health, published a report in the *New England Journal of Medicine* posing the general question, "Are we winning the war against cancer?"[1] Using one statistical yardstick — the age-adjusted mortality rate, which adjusts for changes in age distribution as well as in population size — and combining all cancer-related deaths together, they found that the overall mortality from cancer during the years 1950 to 1982 had increased by 8.5%. This increase in mortality had occurred during a period of particularly intense research and investigative effort. While admittedly there had been noteworthy improvements in the control of the less common types of cancer, better palliation, and some extension of life in those under 65, the war against cancer in their opinion was only a qualified success. They suggested that the amount of progress in cancer control had been overstated and that research emphasis should be shifted from the treatment of cancer to its prevention.

The Bailar-Smith analysis and recommendation was not what the National Cancer Institute, the American Cancer Society, and many private investigators and practitioners wanted to hear. Interested parties were quick to make rebuttals and in a recent issue of the *New England Journal of Medicine* 12 letters to the editor dissected the unsettling finding and interpretations in detail. This debate promises to continue, since it appears that "where you stand depends on where you sit."

The war against cancer was more or less officially declared when Richard Nixon signed the National Cancer Act in late 1971. This act abruptly increased funds allocated to the National Cancer Institute for the support of basic and clinical research, created a network of comprehensive cancer centers about the country and initiated "outreach control" programs. An expansion of Institute programs had been advocated for more than 10 years by the medical lobby (a group of politically oriented medical and scientific leaders), the American Cancer Society, Institute officials and others interested in cancer.

A controversial budget bypass mechanism was arranged to avoid budgetary excisions and tedious negotiations with other worthy claimants and branches of the National Institutes of Health. Recommendations for supporting the National Cancer Institute were to be presented directly to the President by a three-member advisory panel. This special budgetary treatment, and misgivings that the Institute expansion represented a premature and lopsided emphasis on one group of categorical diseases, ruffled the feelings of a number of influential scientists, commentators and administrators. They tended to be critical of many of the programs carried out during the following 15 years, particularly the large-scale screening of chemicals and biologic agents for anti-tumor activity, the development of large clinical cooperative groups to evaluate different agents and treatment regimens, and cancer control efforts that involved public relations and public education activities.

Criticism from the scientific community was dampened considerably, though, when science advisors and study group members at the Institute continued to take a broad view of the cancer problem and gave substantial support to basic research in relevant fields of biochemistry, pharmacology, microbiology, immunology, cell biology, epidemiology, molecular biology, etc. Over the years many important diagnostic and therapeutic advances were made which to a greater or lesser extent represented dividends from cancer reserach: Lymphangiography, computed tomographic scans, linear accelerators for radiotherapy, agents to monitor immunologic reactions in individuals undergoing organ transplantation, control of hyperuricemia and gout, and developments in the field of molecular biology such as "oncogenes," epithelial, T-cell and platelet-derived growth factors, and a remarkable assortment of monoclonal antibodies now employed as essential reagents in AIDS and other research areas.

The Bailar-Smith Analysis: Lung Cancer and Other Factors

Virtually all commentators on the Bailar-Smith analysis of the 1950 to 1982 cancer mortality statistics regard their view of progress as being unduly pessimistic. Using only the age-adjusted death rate and combining all types of cancer together obscures many important findings. The major failure in the cancer program, as everyone recognizes, concerns cancer of the lung. During the past 35 years the mortality from this self-induced, preventable disease has increased 250%. In the U.S., mortality has begun to fall in men, but it continues to increase in women. If lung cancer were excluded from the calculations, the overall age-adjusted 1950 to 1982 mortality from cancer would not be an increase of 8.5% but a decrease of 13%. It is evident that economic and political forces have prevented any real war from being waged against lung cancer and allowed only a half-hearted skirmish.

Screening programs in the U.S. have detected lung cancer at an earlier stage, which may lead to some improvement in survival after surgery. Small cell tumors respond

From the Department of Medicine, Duke University School of Medicine, Durham 27710. This editorial appears also in Oncology Times, 1987; 9(Jan. 1):2, 10.

temporarily to aggressive chemotherapy but overall mortality in any case has not been reduced. There is no reason to think that statistics have been influenced by diagnostic errors or changes in pathologic criteria. Cancer is increasing most rapidly worldwide in developing countries where there has been a dramatic increase in the consumption of tobacco products. The use of tobacco increases the incidence of many types of cancer in addition to those of the lung, particularly those that originate in the mouth, throat, esophagus, bladder, kidney or pancreas. In Shanghai County, China, cancer was the sixth leading cause of death in 1960. Twenty years later it had become number one.

The incidence of cancer of the stomach during the last 50 years has fallen by 65-70%. This is generally attributed to improvements in food preservation and in dietary habits. The mortality and five-year survival rates for carcinoma of the breast in women have been relatively stable, and statistics have not yet been influenced by notable improvements in early diagnosis, the development of more acceptable surgical procedures, effective radiotherapy, improved hormone therapy and chemotherapy. The mortality from cervical cancer has declined dramatically in countries where there are well organized cytologic screening systems and well trained practitioners.

The mortality from colorectal carcinoma has declined slowly over the course of several years, due mostly to the earlier detection and better management of rectal tumors. Carcinomas of the colon grow slowly but are still not recognized as a rule until they have produced gross bleeding from the GI tract or obstruction. Earlier diagnosis and more effective treatment would be promoted by giving closer attention to individuals at higher risk, those over the age of 45 with a positive family history of polyps, colorectal carcinoma, recurrent gastrointestinal disturbances or positive tests for occult blood in the stool.

In the 1970s investigators in the fields of comparative pathology and epidemiology popularized the idea that 80-90% of cancers were caused by environmental factors, which might be identified and dealt with by large-scale "test and ban" procedures. This idea has fallen into disrepute. The environment they defined turned out to be both endogenous and exogenous, too inclusive and poorly defined to provide a basis for definitive investigation. Air pollution, chemical wastes in dump sites and ground water, occupational exposures, etc., were alleged to be etiologically important in from 3% to 75% of cancers. As better information accrued, the lower numbers seemed to be more reasonable. Some chemicals, such as vinyl chloride and monomers used in the plastic industry and benzol used in manufacturing rubber goods, have been engineered out of the workers' environment. Others, such as the potent carcinogen aflatoxin, which contaminates corn products and peanuts on occasion, are more difficult or impossible to eliminate and for practical purposes can only be controlled to an arbitrary "tolerance."

Speculations regarding the relationships of dietary and nutritional habits to cancer, beyond recognizing the importance of specific deficiencies, are necessarily based on soft data. Guidelines for a prudent diet can be recommended, however, since they have definite merit in the prevention of cardiovascular and other diseases and entail no risk. "Chemopreventive" agents for cancer are still in a "star wars" stage of development.

Looking Ahead

Bailar and Smith have performed a useful service in calling attention to the fact that much of the cancer problem has not been solved, and that signs of progress have been disappointing to some. The National Cancer Institute's goal of reducing cancer mortality by 50% by the year 2000 is a laudable hope but one that is not supported by statistical trends. In most forms of cancer there is a long latency period, and achieving the stated goal by the year 2000 would require an almost instant reduction in cigarette smoking, a compliant public and the development of exceptional professional expertise. There is no realistic reason to think that all of these will materialize by request.

The recommendation that cancer control emphasis be shifted in a major way to cancer prevention ignores the substantial support already being given to this field. A major impediment to planning additional cancer prevention activities, furthermore, is that there are simply no rational, scientific leads at this time as to how to prevent brain tumors, leukemia, lymphoma, myeloma, hepatoma, melanoma, sarcomas, kidney tumors, endocrine tumors, or carcinoma of the pancreas, ovary or prostate.

There is increasing agreement that the traditional warning signs of cancer should be modernized to emphasize constellations of habits, signs and symptoms that in an individual of a given age, sex and genetic background may be particularly significant (see table 1). In this format item 1, for instance, relates to the well-known respiratory tract hazard of cigarette smoke, and item 2 to the local effects of tobacco on oral tissues. Item 3 summarizes the signs, symptoms and circumstances that should arouse suspicion of breast tumor in women. In item 5 the symptoms and demographic data outlined relate to a crucial matter, the early diagnosis of colorectal carcinoma. Item 6 refers to bladder and prostate carcinoma in men past middle-age and item 7 to carcinoma of the cervix which investigators

Table 1
Warning Signs of Increased Cancer Risk

1. Habit of smoking cigarettes or breathing cigarette smoke.
2. Habit of chewing tobacco, dipping snuff or heavy use of both alcohol and tobacco.
3. Palpable lump in breast after end of menstrual period, bleeding from the nipple, breast discomfort in women over 40, especially in those with a family history of breast carcinoma.
4. Frequent sunburn; change in size, color or pigmentation or bleeding from any skin lesion.
5. Recurrent abdominal pain, cramps, diarrhea, change in bowel habits or blood in stools in men or women over 45, especially in those with a family history of polyps in the colon or colorectal cancer.
6. Increasing difficulty in urination or blood in urine in men over 50.
7. Promiscuous sexual activity in young women.
8. Obesity in women, vaginal bleeding after menopause.
9. Enlarged lymph nodes, or swelling of tonsil, testis, etc.
10. Chronic cough or hoarseness.

are showing is related to papilloma viruses transmitted by sexual contact.

Winning the war against cancer will require not only sustained and sophisticated research and a high level of medical competency, but education of the public, reinforced by persuasion and example, which it is to be hoped will lead to the adoption of optimal health habits by individuals who expect to have long and healthy lives. □

Reference

1. Bailar JC III and Smith EM. Progress against cancer? N Engl J Med 1986;314:1226-32.

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Contraindications: Known hypersensitivity to the drug.
Wornings: Worn potients thot mentol ond/or physicol obilities required for tosks such os driving or operating mochinery moy be impoired, os may be mentol olertness in children, ond thot concomitont use with olcohol or CNS depressonts may have on odditive effect. Though physicol ond psychologicol dependence have rorely been reported on recommended doses, use coution in odministering to oddiction-prone individuols or those who might increose dosoge. Withdrowol symptoms (including convulsions) reported ofter obrupt cessotion of extended use of excessive doses ore similor to those seen with borbiturotes. Milder symptoms reported infrequently when continuous theropy is obruptly ended. Avoid obrupt discontinuotion; groduolly toper dosoge.
***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**
Precautions: In the elderly ond debilitoted, ond in children over six, limit to smollest effective dosoge (initiolly 10 mg or less per doy) to preclude otoxio or oversedotion, increosing groduolly os needed ond toleroted. Not recommended in children under six. Though generolly not recommended, if combinotion theropy with other psychotropics seems indicoted, corefully consider individual phormocologic effects, particulorly in use of potentioting drugs such os MAO inhibitors ond phenothiozines. Observe usuol precoutions in presence of impoired renol or hepotic function. Porodoxicol reoctions (e.g., excitement, stimulotion ond ocute roge) hove been reported in psychiotric potients ond hyperoctive oggressive children. Employ usuol precoutions in treotment of onxiety stotes with evidence of impending depression; suicidol tendencies moy be present ond protective meosures necessory. Vorioble effects on blood coogulation have been reported very rorely in potients receiving the drug ond orol onticoogulonts; cousol relotionship hos not been estoblished clinicolly. Due to isoloted reports of exocerbotion, use with coution in potients with porphyrio.
Adverse Reactions: Drowsiness, otoxio ond confusion moy occur, especiolly in the elderly ond debilitoted. These ore reversible in most instonces by proper dosoge odjustment, but ore olso occosionolly observed ot the lower dosoge ranges. In o few instonces syncope hos been reported. Also encountered ore isoloted instonces of skin eruptions, edemo, minor menstrual irregulorities, nouseo ond constipation, extropyromidal symptoms, increosed ond decreosed libido—oll infrequent ond generolly controlled with dosage reduction; chonges in EEG patterns (low-voltoge fost octivity) moy oppeor during ond after treotment; blood dyscrosios (including ogronulocytosis), joundice ond hepotic dysfunction hove been reported occosionolly, moking periodic blood counts ond liver function tests odvisoble during protrocted theropy.
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EDITORIAL

Beyond the Operative Permit

James P. Weaver, M.D.

FEW physicians would deny that Medicine is currently undergoing significant change. Each of us can easily find examples to illustrate the effects of many forces in our daily practices. Where these forces will lead us is certainly open to controversy. One point that continues to remain clear, however, is the continued primacy of the physician-patient relationship. We know that strengthening this invaluable bond will surely give us our firmest anchor in the stormy waters that seem to lay ahead.

At the November meeting of the executive committee of The North Carolina Medical Society a resolution was passed which is testimony to the Society's recognition of this fact. The resolution calls for acceptance by the Society of the concept of the "Operative Request," and calls on the Society to encourage the North Carolina chapter of the American Hospital Association, and the North Carolina chapter of the American College of Surgeons, to adopt the "Operative Request" as opposed to the "Operative Permit." We may easily see how this relates to the strength of the physician-patient relationship by briefly examining the implications and origin of the current terminology.

The words we use to describe a thing influence our concept of that thing. Examples of this would be "house" versus "home" or "acquaintance" versus "friend." Government propaganda frequently uses this technique to make unpleasantries seem more appealing, such as "Federal Deposit Insurance Corporation" instead of "tax." Simply changing a word can open up a new horizon in our conceptual awareness of an event or thing.

During surgery, the only formal statement and documentation of the physician-patient relationship is the "Operative Permit" or "Operative Consent." This piece of paper almost reaches ceremonial proportions as the physician steps forward with the familiar, "Now you must sign this so I can operate on you." The point is that under current circumstances, physicians are obtaining "permission" to operate on their patients. We have no choice, for that is the label which the law has placed on the interaction every time we have our patients sign an "Operative Permit." In essence we are obtaining "permission" to commit a battery, for the law demands that we obtain "permission" to touch another person, and this form is documentation that we have obtained that "permission."

The problem with obtaining an "Operative Permit" or "Operative Consent" is that this terminology grew out of the law; it reflects the adversarial relationship between parties in a legal encounter, and not the relationship of shared decision-making which is more appropriate in a medical encounter. Physicians have allowed the administrators and the lawyers to create forms that have labeled the physician-patient relationship with a terminlolgy destructive to that relationship.

As a physician, it is my duty to evaluate a patient's problem and recommend treatment. The law has made it quite clear that I should discuss the possible risks, benefits, alternative choices, and complications of my recommendation, and with these ideas I agree. The patient does not, however, give me "permission" to assault him, which is the terminology we are all using under the current system. From a physician's perspective, and indeed, from a patient's perspective, it is more appropriate that the patient either "request" our services or refuse them. He or she can do this by signing an "Operative Request."

The Veterans Administration hospitals have used an "Operative Request" since 1975, and in personal communication with the office of the General Counsel of the VA, I have been told that they have had no legal difficulty with the "request" form, and regard it as "a 'consent and then some' rather than something less than a consent." The "Operative Request" fills the law.

The "Operative Permit" or "Operative Consent" can be changed to an "Operative Request" by simply removing the word "Permit" or "Consent" everywhere it appears in the current form that your hospital recommends and replacing it with "Request." This single word change immediately changes the flavor of the physician-patient interaction for the better. It stops physicians from obtaining "permission" to assault their patients. "Request" is a term that is more constructive than destructive in the physician-patient relationship. It frees the relationship from the connotation of antagonism inherent in the legal jargon and consequently sets it in a more harmonious environment. It elevates the patient to a higher level in the relationship by stressing cooperative effort and not passive permission-giving by the patient. It more appropriately describes the patient as the active seeker of help, rather than the physician as the seeker of another procedure. Finally, it may strengthen the physician's legal position, for now the physician is not simply getting "permission" to operate, but complying with the patient's "request" that something be done.

By their endorsement of the "Operative Request," the North Carolina Medical Society has begun again to strengthen the essence of our medical system, the physician-patient relationship. There is hope that in the future, and with the added influence of the American Hospital Association and the American College of Surgeons, we can move beyond the "Operative Permit" and the physicians in North Carolina will no longer get "permission" to operate on their patients but rather a "request" for surgery. □

From Durham Clinic, P.A., 1830 Hillandale Road, Durham 27705.

Heparin Induced Hyperkalemia

Franklin W. Maddux, M.D.

LISTENING to the housestaff discuss a patient recently, I was reminded of a particularly valuable Pearl proffered by a faculty member several years ago.

Medical Pearls Day is an annual event in which the graduating medical school class asks selected faculty members to leave them with a parting piece of medical wisdom. A hepatologist came to mind. He was and is an engaging faculty member who is perennially asked to give a snippet of his medical knowledge. His point this day was simply that while evaluating liver function abnormalities, it is essential that the diagnostician "THINK DRUGS" while considering etiologies for the liver function abnormalities. I have found the pearl to be exceedingly pertinent and worthy of much *broader utility* than simply in the evaluation of hepatitis.

The case in point is that of a middle-aged patient admitted to the hospital with a deep venous thrombosis in the right thigh. His anticoagulation was proceeding unremarkably with intravenous heparin. He had no prior medical history of note and was on no medications at initial presentation. He was an occasional alcohol user and a two-pack-a-day smoker.

The difficulty in his management began six days after entry when routine electrolytes revealed persistent elevations in his serum potassium level. For two or three days the level was regularly between 5.8 and 6.6 mmoles/L, while work-up was without evidence of exogenous potassium intake, type IV renal tubular acidosis, tissue destruction, or infection. Resolution of the hyperkalemia was impressive when oral anticoagulation was instituted. Within 36 hours of discontinuing intravenous heparin, the patient's serum potassium was at its baseline entry value of 4.2 mmoles/L.

"Think Drugs"

As the potassium level was returning to normal, the housestaff reconsidered the predicament and uncovered the relationship between heparin and hyperkalemia.

Drug-induced hyperkalemia may be divided into three categories. The drug may be responsible for increased potassium uptake, decreased potassium excretion, or a shift from the intracellular stockpile of potassium to the extracellular compartment. Heparin and related mucopolysacharrides were noted in the early 1960s to induce natriuresis. Further, they acted to inhibit the excretion of potassium in some patients. Wilson and Goetz noted that one such patient was found to have an extremely atrophic zona glomerulosa when the adrenal glands were pathologically examined.[1] Subsequently it has been well documented that heparin inhibits the production of aldosterone by the adrenal gland.[2] The adrenal suppression is selective, as glucocorticoid synthesis is unimpaired. The inhibition of aldosterone production occurs within two to five days and lasts for two to seven days following the cessation of drug therapy. Low dose and high dose regimens of heparin induce the abnormal response. Adrenal suppression is seen regardless of the route of administration.[3] The effect is independent of the glucocorticoid and mineralocorticoid stimulating action of adrenocorticotropic hormone.[4] It appears to interfere with the angiotensin stimulation of the zona glomerulosa by inhibiting the production of the aldosterone precursor corticosterone. The effect is rapidly reversible when the drug is removed.[2]

Hyperkalemia from heparin induced hypoaldosteronism is a rare clinical occurrence. It has been proposed that patients with mildly compromised renal function and diabetes are at the highest risk for developing the clinical manifestation of the hypoaldosterone state. Finally, since the causes for hyperkalemia are many, there is a gross under-recognition of the syndrome despite the potentially fatal complications.

Heparin use in the United States has increased dramatically in the past ten years. Treatment of venous thrombosis and pulmonary embolism utilize full dose intravenous heparin. Prospective studies have clearly documented the benefit of prophylactic low dose heparin to prevent thromboembolic disease in hospitalized medical and surgical patients. Further, heparin solutions are used to keep many types of peripheral and central intravenous catheters patent. The drug is used to prepare vascular graft material and to keep the hemodialysis machine functioning. Controversy exists over the efficacy of long-term subcutaneous heparin versus oral anticoagulation. Other uses are spread throughout the medical community. At North Carolina Memorial Hospital, the pharmacy reports annual usage in 1986 of 465,682,500 units.

Heparin is one of the most utilized agents in the practice of medicine. Rare complications will inevitably be realized when the use of the drug is this frequent. Therefore, the wise physician will heed Dr. Henry Lesesne's medical pearl and "think drugs" when unexplained complications arise.

□

Acknowledgment

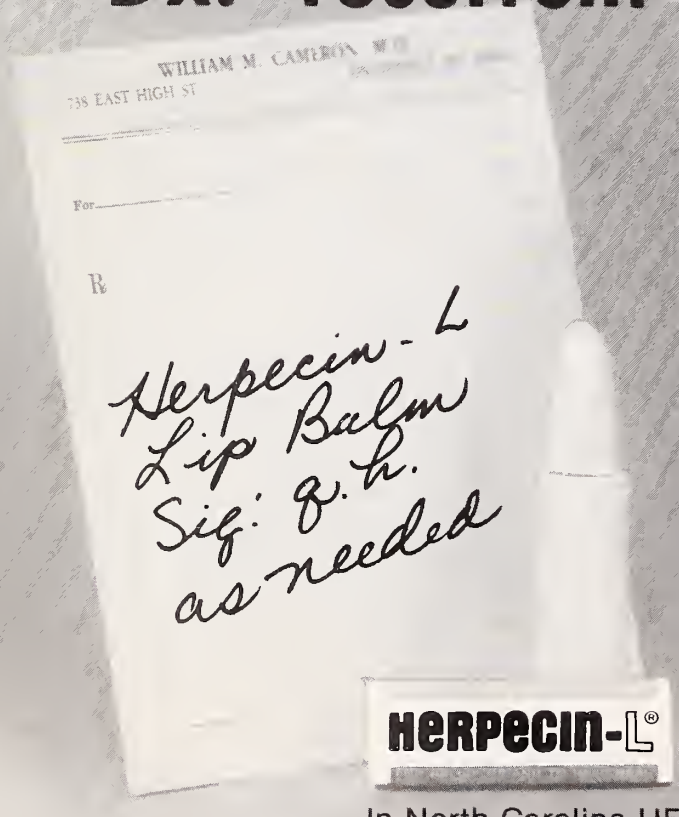
My thanks to Ms. Gladys Battle for tallying the Heparin use at North Carolina Memorial Hospital.

From the Division of Nephrology, the University of North Carolina School of Medicine, Chapel Hill 27514.

References

1. Wilson ID and Goetz FC. Selective hypoaldosteronism after prolonged heparin administration. AJM 1964;36:635-9.
2. Kloppenborg PWC, Casparie AF, Benraad TJ, Majoor CLU. Inhibition of adrenal function in man by heparin or heparinoid Ro 1-8307. Acta Med Scand 1975;197:99-108.
3. Leehey D, Gantt C, Lim V. Heparin induced hypoaldosteronism. JAMA 1981;246:2189-90.
4. Phelps KR, Oh MS, Carroll HJ. Heparin induced hyperkalemia: report of a case. Nephron 1980;25:254-8.

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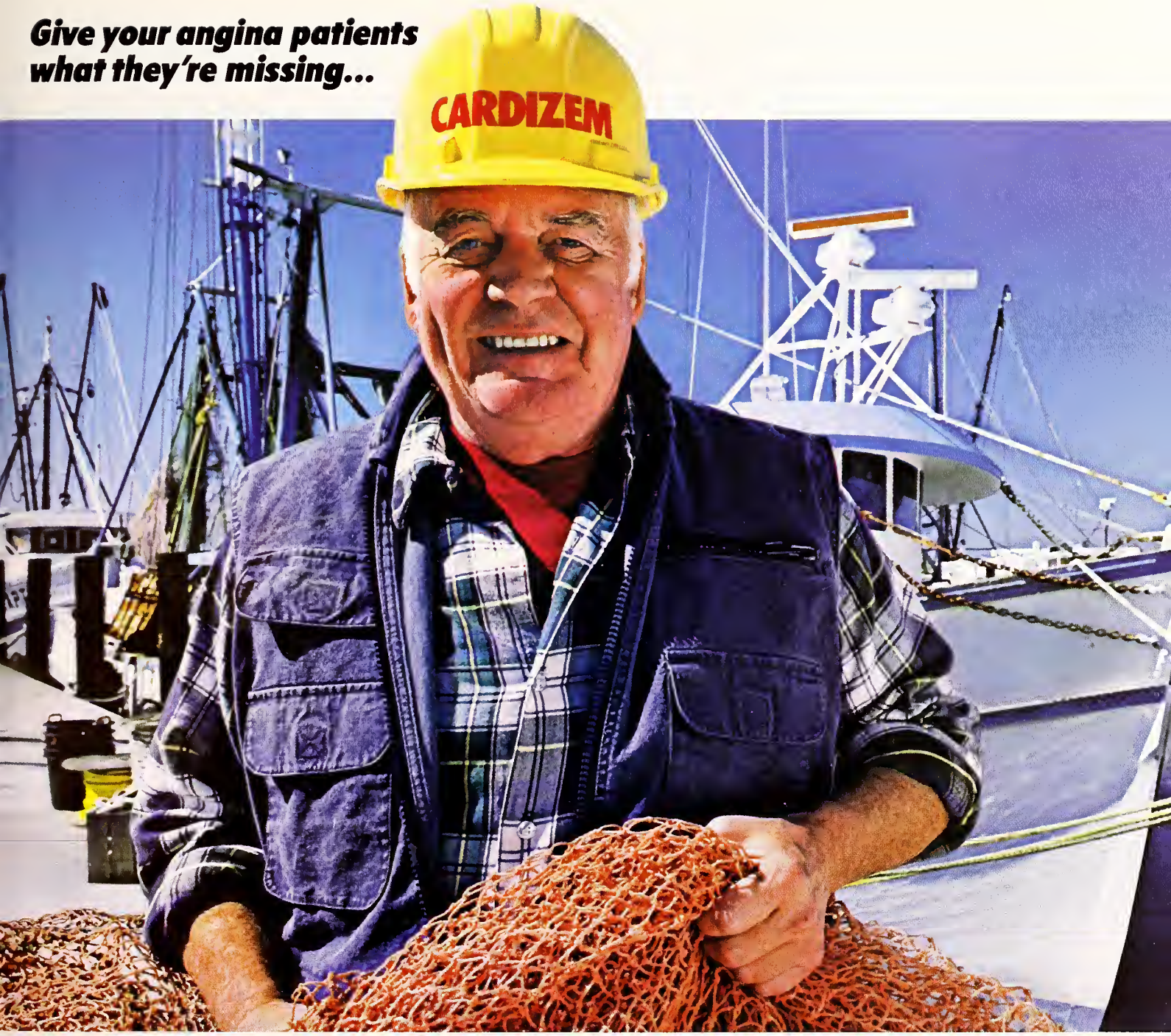
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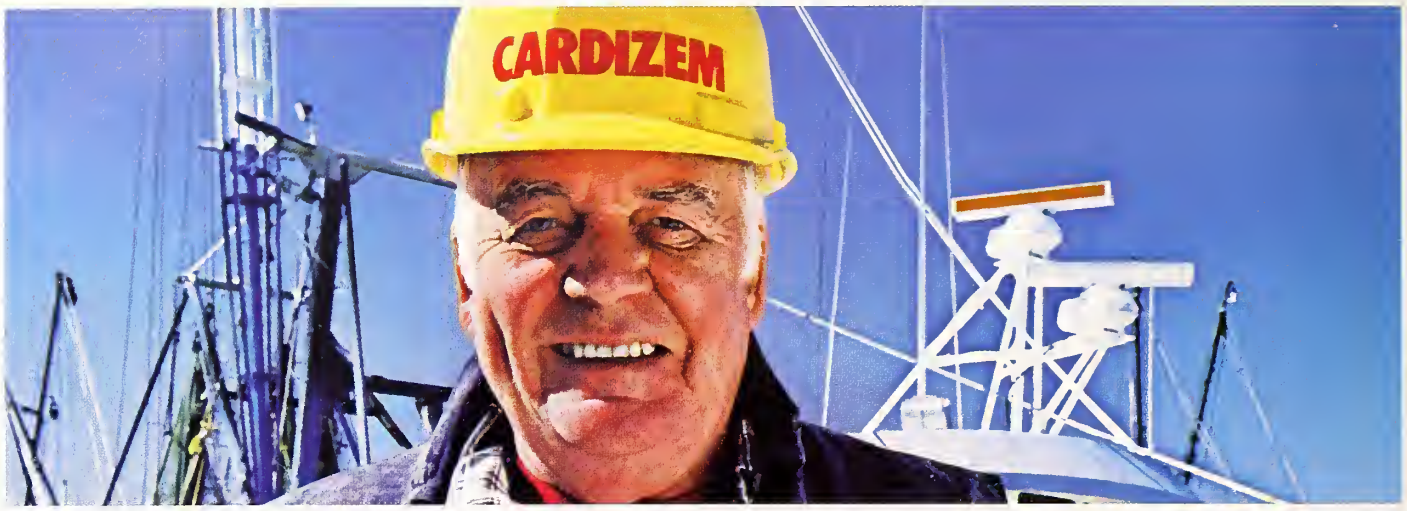
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CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. ***Cardiac Conduction.*** *CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1,243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.*
2. ***Congestive Heart Failure.*** *Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt).*
   Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. ***Hypotension.*** *Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.*
4. ***Acute Hepatic Injury.*** *In rare instances, significant elevations in enzymes such as alkaline phosphatase, CPK, LDH, SGOT, SGPT, and other symptoms consistent with acute hepatic injury have been noted. These reactions have been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertain in most cases, but probable in some. (See PRECAUTIONS.)*

PRECAUTIONS

General. *CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.*

Drug Interaction. *Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)*

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. *A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.*

Pregnancy. *Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/pasthatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.*

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. *Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted.*

Pediatric Use. *Safety and effectiveness in children have not been established.*

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences as well as their frequency of presentation are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%). In addition, the following events were reported infrequently (less than 1%):

Cardiovascular:	*Angina, arrhythmia, AV block (first degree), AV block (second or third degree — see conduction warning), bradycardia, congestive heart failure, flushing, hypotension, palpitations, syncope.*
Nervous System:	*Amnesia, gait abnormality, hallucinations, insomnia, nervousness, paresthesia, personality change, somnolence, tinnitus, tremor.*
Gastrointestinal:	*Anorexia, constipation, diarrhea, dysgeusia, dyspepsia, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH (see hepatic warnings), vomiting, weight increase.*
Dermatologic:	*Petechiae, pruritus, photosensitivity, urticaria.*
Other:	*Amblyopia, dyspnea, epistaxis, eye irritation, hyperglycemia, nasal congestion, nocturia, osteoarticular pain, polyuria, sexual difficulties.*

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: alopecia, gingival hyperplasia, erythema multiforme, and leukopenia. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established. *Issued 7/86*

See complete Professional Use Information before prescribing.

References: ***1.*** *Pepine CJ, Feldman RL, Hill JA, et al: Clinical outcome after treatment of rest angina with calcium blockers: Comparative experience during the initial year of therapy with diltiazem, nifedipine, and verapamil. Am Heart J 1983; 106(6):1341-1347.* ***2.*** *Shapiro W: Calcium channel blockers: Actions on the heart and uses in ischemic heart disease. Consultant 1984;24(Dec):150-159.* ***3.*** *Johnston DL, Lesoway R, Humen DP, et al: Clinical and hemodynamic evaluation of propranolol in combination with verapamil, nifedipine and diltiazem in exertional angina pectoris: A placebo-controlled, double-blind, randomized, crossover study. Am J Cardiol 1985;55:680-687.* ***4.*** *Cohn PF, Braunwald E: Chronic ischemic heart disease, in Braunwald E (ed): Heart Disease: A Textbook of Cardiovascular Medicine, ed 2. Philadelphia, WB Saunders Co, 1984, chap 39.* ***5.*** *Schroeder JS: Calcium and beta blockers in ischemic heart disease: When to use which. Mad Med 1982;50(Sept):94-116.*

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North Carolina Medical Journal

Features for Patients February 1987

Advances for the Hearing Impaired: Assistive Listening Devices

Robert D. Wolford, M.S.

It is estimated that there are between sixteen and eighteen million hearing impaired Americans, making hearing loss the most prevalent serious disability in the United States today.[1,2] Given that approximately only four million people own hearing aids, there remain vast numbers of people who tolerate their hearing loss without benefit of any assistance.

Many of these people believe that their loss is not very severe or that a hearing aid is inappropriate for their particular type of hearing problem. There are those who experience listening problems despite the use of hearing aids who suppose that there is nothing more that can be done for them. There are also individuals who have tried hearing aids and received no benefit due to the severity of their hearing loss.

While for many people a hearing aid will go a long way toward solving a hearing problem, it has limitations, especially in noisy environments. This is because the microphone of the hearing aid picks up all of the incoming sound and amplifies it according to the frequency output of the hearing aid. What is sacrificed in this situation is the signal-to-noise ratio. That is, the loudness of the signal (message we are trying to hear) is equal to or softer than the background noise.

Many people who are helped partially or not at all by their hearing aids are unaware of what have come to be known as Assistive Listening Devices/Systems (ALDS). ALDS is the name given to a broad range of products that are designed to solve one or more specific listening problems which hearing aids either cannot solve or can only partially alleviate. These devices are designed either to improve the signal-to-noise ratio by increasing the loudness of the signal or by transmitting the signal directly to the ear of the listener, or to substitute an alternative stimulus when amplification of the sound is not enough.

Telephone Devices/Systems

Considering that almost 10% of the population has hearing impairment, and the need for good telephone communications is a prime requisite in today's fast-paced world, it is easy to understand why telephone devices are currently the most utilized form of assistive listening device. In choosing an ALD for the telephone one must consider the individual's degree of hearing impairment as well as his or her use of the phone away from the home or office. While some people may be helped by simply selecting a phone with a clean, clear sound, others may need additional amplification from a built-in or add-on device. Still others, with severe/profound hearing loss or poor word discrimination ability, should consider a telecommunication device for the deaf.

Amplifying devices for the telephone fall into three major cate-

From the Center for Speech and Hearing Disorders, Department of Surgery, Duke University Medical Center, Durham 27710.

gories: built-in, portable and modular. The prices of telephone amplifying devices range from $15 to $90.

Built-in amplifiers, usually available from the telephone company, consist of an amplifying handset with a switch and/or control that can be activated when the hearing impaired person uses the telephone.

Portable units are small disc-shaped amplifiers that slip over the earpiece of the telephone. They are held in place by an elastic band and use a small battery for power. Some of these units have a built-in telecoil capable of generating a magnetic field, inductively feeding sound to a telecoil ("T" switch) equipped hearing aid[3,4] (figure 1).

Modular amplifiers connect directly to a modular telephone at a point between the handset cord and the housing for the dialing pad.

A ***telecommunication device for the deaf*** (TDD) provides the severely hearing impaired with the ability to call directly another person who has similar equipment without the need for an interpreter. This is possible because the conversation is typed through one machine and decoded by the second machine, providing a visual readout (figure 2).

All TDDs have three basic components: a keyboard for typing messages, a cradle for the handset of the telephone to permit transmission of the message, and an LED display providing the visual readout. TDDs range in price from approximately $160 to $1000 depending on the features selected.

Some additional features one may wish to consider are paper print-out, built-in memory allowing you to hit one key for frequently used words, and automatic answering. Ultratec, Inc., manufactures a TDD called the Superphone which can be made with an optional electronic voice and a touch-tone signal decoder. This would permit telephone conversation with anyone having a touch-tone phone. The Superphone is capable of receiving and transmitting both Bandot and ASCII codes; in effect, the Superphone can be used as a computer terminal. For deaf/blind individuals a TDD can be selected that is compatible with a Braille type printer.

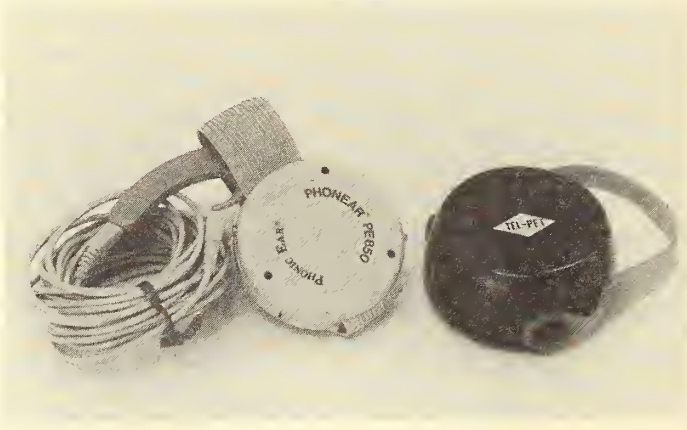


Figure 1.
Two different portable telephone amplifiers



Figure 2.
A telecommunications device for the deaf

Personal Amplifying Systems

Personal amplifying systems can be divided into two major categories: systems that can be used independently from one's hearing aid and those in which the individual's hearing aid acts as part of the system. To understand amplifying systems more clearly some definitions are in order.

Hardwire devices require that the user be directly connected or "wired" to the sound source. An example of this is the use of headphones with a TV or stereo.

Induction loops use a wire that is placed around the perimeter of a room or worn around the neck. A special amplifier is attached to this wire and a magnetic field is created inside the loop. A person whose hearing aid has a "T" switch can pick up this signal as long as he or she remains inside the loop.

FM, as the name implies, is a radio system by which the transmitter, placed near the sound source, sends radio waves to a receiver worn by the listener.

Infrared is much like an FM system, but instead of radio waves the medium used is invisible light.[5]

These various systems can be used

Figure 3.
An example of an induction loop, an FM system and an infrared system



Figure 4.
Two personal amplifiers



alone or in combination, depending on the specific needs of the individual (figure 3).

People who do not have hearing aids can use hardwire systems such as the personal amplifier available from Radio Shack or the Williams Sound Pocket Talker. The Pocket Talker has a microphone jack that permits use of an extension cord so the microphone can be placed next to the TV while the listener reclines in a favorite chair (figure 4).

The physician with hearing impairment would find the amplifying stethoscope a valuable "hardwire" device. Infrared devices, which can only be used indoors, have stethoscope-type receivers with volume control adjusters and meet the needs of the mild and moderately hearing impaired. In the classroom, FM systems can be useful auditory trainers. The teacher wears a microphone-transmitter around the neck and his or her voice is picked up by the student wearing the receiver.

People who already have hearing aids can adapt these devices provided their aids have either direct audio input or an induction coil ("T" switch). Hearing aids that have direct audio input have a port into which various cords can be hardwired. These cords can be attached to a microphone, auditory trainer, tape recorder, etc. The telecoil of the hearing aid can be activated by placing a silhouette next to the aid which is hardwired to a pickup mike or attached to one of the above devices.

The induction loop, FM, and infrared systems can be readily expanded to provide multiperson listening systems. All that is necessary is that multiple receivers be worn by the members of the group. If these multiperson systems are to be used in adjacent rooms, care must be taken when using induction loops. These loops are capable of bleed-over which could cause a listener to experience interference from the next room. FM systems have 32 different channels available to avoid this problem. Infrared systems are incapable of proper functioning if the light pathway is obstructed.

Alerting/Signaling Devices

Imagine for a moment not being able to hear your alarm clock in the morning, the ring of the telephone, or the cry of your baby in the next room. For the more than two million deaf people in the United States, this is a way of life.[1] They must learn to rely on their sense of touch or vision in order to meet the demands of day-to-day living. A variety of alerting/signaling devices have been developed which when triggered cause a light to flash or an oscillator to vibrate, thus alerting the deaf person that it is time to wake up or that there is someone at the door. These devices can be purchased as individual units, each designed to alert the deaf person to one particular sound, or as systems that will flash a predetermined code identifying the particular sound source.

Wake-up alarms include standard and digital clocks or timers. The Flashalarm Moonbeam (Westclox, a Division of General Time Corporation, Norcross, Georgia) has a built-in strobe light that flashes at a preset time. For deaf/blind people or heavy sleepers there are alarm clocks that awaken by vibration, such as the Electro Alarm Clock Kit #2332 (American Communication Corporation, East Hartford, Connecticut) which has a vibrator attachment that can be placed under the pillow (figure 5, next page).

For the do-it-yourselfer, an inexpensive timer with a built-in electrical outlet permitting the use of a fan, light or vibrator may be all that is necessary. For those who wish to use a lamp, a flasher button that makes any lamp flash 65 to 85 times a minute can be purchased for a few dollars from a local electronics shop.

Telephone and doorbell signalers can be in-line or separate units with a microphone that is placed next to the phone or door chime.

There are multipurpose systems that are sensitive to as many as six different sounds. These systems have transmitters that send a signal to a

receiver located in the room of the hearing impaired person. Some of these receivers are capable of transmitting FM signals to a wristwatch-like device permitting the user to move freely from room to room.

Emergency signalers flash lights, and more sophisticated devices automatically call the fire company when a smoke detector is activated.

Figure 5.
Phone signaler connected to a lamp



Hearing Dogs

An alternative to assistive devices for the deaf is the hearing dog. The hearing dog program began in 1976 when the American Humane Association in Denver, Colorado began training dogs to react to specific "sounds." In 1981 the American Humane authorities selected Red Acre Farm in Stow, Massachusetts to develop a regional hearing dog center. Since that time the Red Acre Farm program has expanded and now serves most of the United States.

In keeping with the philosophy of Red Acre Farm, which is to "initiate and encourage projects that will help prevent suffering in humans and animals," the dogs are selected from various animal shelters. After a veterinary examination, the dogs undergo a four-month training program. During this period they receive obedience training and are taught to respond to certain sounds such as alarm clocks, smoke detectors, a door knock, a child's cry, or the telephone. Upon hearing a specific sound, a dog will respond by making physical contact with the owner and leading him or her to the sound source. To date there are three hearing dogs in use in North Carolina.

Closed Captioning

Telecaption decoders translate the audio portion of selected television programs into captions that are displayed on the television screen. The captions appear as white letters on a black background usually at the bottom of the screen. Decoders come cable-ready and are similar in size to most video cassette recorders. Presently there are over 90 hours per week of captioned programming on network television and up to 134 hours per week on cable television.

Through technology developed by the National Captioning Institute, closed captioning is available not just for prerecorded programs but for "live" ones as well, such as "ABC World News Tonight," "Monday Night Football," presidential speeches and other special programs. To determine if one's favorite program is closed captioned, one should look for the phrase "Closed Captioned" following the individual program listings in a program guide such as *TV Guide*.

Figure 6.
A two-channel vibrotactile device with wristbands



Vibrotactile Aids

Vibrotactile aids are designed to transform airborne sound waves into vibratory patterns providing the profoundly hearing impaired with the ability to "feel" sound. The electronics case, about the size of a pack of cigarettes, picks up the incoming sound waves and sends a signal to a vibrator or vibrators worn on the wrist or chest (figure 6).

Because the skin cannot detect frequencies much in excess of 600Hz, tactile aids include special processing that lowers the frequency of higher pitched sounds such as doorbells, or

speech sounds such as "s" or "f," so that they can be felt.[6,7]

For the wearer, tactile aids remove the isolation associated with deafness. With training, some people are able to differentiate environmental sounds and some speech sounds. Researchers have reported that in using a prototype tactile vocoder with up to 23 channels, some patients have achieved speech discrimination scores of 78% using a closed set of 100 words with no visual cues (lip reading).[7] While this 23-channel device is not yet available to the general public, continued development of tactile aids should provide a promising alternative for those profoundly impaired people who do not receive benefit from hearing aids.

Summary

While it is appropriate for the hearing impaired to seek assistance beginning with an audiologic/otologic examination, it is no longer appropriate to think of a hearing aid as the only non-surgical/medical treatment for hearing loss. Over the past few decades, remarkable innovation has resulted in the development of a wide variety of systems for the hearing impaired.

Additional information about assistive listening devices is available from the author.

□

References

1. Cherow E. The practice af audiology: o national perspective. ASHA 1986;28:31-8.
2. Marketing Edge 1986;1 (July).
3. Halmes AE and Chase NA. Listening ability with a telephone adapter. Hearing Instruments 1985;36:16.
4. Staker RG, French-St. Gearge M, and Lyons JM. Inductive caupling af hearing aids and telephane receivers. J Rehab Research and Devel 1986;23:71-8.
5. Lederman N. Hearing is believing . . .assistive listening aids. Vaice 1985;1:12.
6. Pickett JM. Speech cammunicatian far the deaf: visual, tactile, and cochlear implant. J Rehab Research and Devel 1986;23:95-100.
7. Geers AE. Vibratactile stimulatian: case study with a profoundly deaf child. J Rehab Research and Devel 1986;23:111-8.

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Some More "Facts" About Your Eyes

Calvin H. Mitchell, M.D.

In October 1983, Dr. Bruce Shields shared some eye "facts" in this journal — some common misconceptions about eye health.[1] Here are some myths that are commonly espoused by patients who come to the Duke Eye Center for an eye examination. Read through the list and see how many myths are familiar to you.

1 Putting off wearing glasses for reading as long as one can will allow one to continue reading to a more advanced age.
2 Wearing glasses makes one's eyes weak so that one has more difficulty reading without them.
3 Holding reading material too close will be harmful to the eyes.
4 Sitting too close to a television set will harm the eyes.
5 Reading with one eye closed or with just one eye will cause damage.
6 If one has glasses, he or she should wear them all the time.
7 Everyone over 50 years of age should have bifocal glasses.
8 Eye exercises will improve the eyesight so that glasses are no longer needed.
9 Looking at a computer screen will strain the eyes.
10 Working under fluorescent lights makes the vision deteriorate.
11 Getting one's "second sight" — being able to read again without glasses — is a sign of good eye health.
12 Bifocals must be all the way across the bottom half of the lens for the best vision.
13 Lenses must always be tinted to protect the eyes.
14 Headaches are frequently caused by the wrong glasses.
15 The bifocals should always be at the same position for everyone if they are correctly positioned in the frame or lens.
16 Everyone will eventually need a trifocal.
17 Oral medications can never impair near vision.
18 Wearing contact lenses prevents eye deterioration, and if one is nearsighted, contact lenses will stop the progression of nearsightedness.
19 With contact lenses, one will need neither bifocals nor reading glasses.
20 Bifocal contact lenses or progressive bifocals are the two visual aids that work well for everyone.
21 If one cannot adjust to new glasses immediately, it means that the glasses are not right.
22 No one can walk down stairs, play tennis, nor play golf while wearing bifocals.
23 Proper diet usually improves one's eyesight.
24 Reading a lot creates the need for glasses and makes the eyes weak.

A comment about each of these myths is appropriate. It is interesting to look closely at them and perhaps gain some insights about how we think of our eyes and eyesight.

1 It is not true that putting off wearing glasses for reading as long as one can will be benificial to the eyes. Those who do not wear glasses may not be fully aware of how helpful glasses can be and may deceive themselves into thinking their eyes are better than they really are. The lens within one's eye continues to grow throughout one's life, just as one's fingernails and hair continue to grow, and as this lens within the eye grows it becomes less able to change its shape to focus for near vision, so everyone needs a different lens for near than for distance usually by the age of 50 or before.
2 One may get the impression that things do look blurred when the glasses are removed after they have been worn for a while. This is probably due to the fact that one realizes how much easier it is to see at near with the help of reading glasses.
3 Holding the reading material "too" close will not be harmful to the eyes. It takes more focusing effort to see something quite close. Small children have several times the necessary ability to focus for the usual reading distance and they are capable of holding reading material within two or three inches of the nose while still seeing clearly. As one gets older, this ability to accommodate gradually diminishes. The limitation of accommodation usually is such that one cannot read the phonebook without reading glasses in the fifth decade of life.
4 Sitting close to a television set will not be harmful to the eyes. Television screens now have a radiation filter on them, and the problem of radiation is no longer significant. The television image, like the image of a motion picture, is not damaging to the eye. If one looked directly into an eclipse of the sun, of course, this would be damaging to the eye.
5 Reading with just one eye does not put undue strain on that eye and does not cause any damage to the eye. Many people go

From the Department of Ophthalmology, Duke University Medical Center, P.O. Box 3802, Durham 27710.

through life with only one good eye and the functional lifespan of that eye is the same as that of a pair of eyes in a person able to use them both throughout a normal lifetime.

6 If one has glasses, he or she may want to go without them sometimes. It does not harm the eyes to wear glasses intermittently.

7 Anyone who needs a lens for near may have that lens made in a bifocal, or chose to have that lens as just a reading glass. A nearsighted individual who needs glasses primarily for distance may be able to read very well without glasses. Such a person has a built-in pair of reading glasses since his or her eyes are in focus for near and out of focus for distance, unaided.

8 Eye exercises will not improve visual acuity, and once someone is old enough to need a different lens for near than for distance, there is no way to restore the ability to focus by any type of therapy. Of course, one can look through a pinhole and see clearly at near because the light rays, coming straight into the eye through a pinhole, do not have to be focused and they fall on the retina with a clear image. However, the small size of the area seen tends to slow down reading considerably. In constricting the pupil by shining a light in the eye, one creates a pinhole-like pupil and this also may improve near vision. This is the reason why one at an older age can see better in a very bright light: the pupils are made quite small by this light and less focusing is required due to the nature of the optical system created.

9 Looking at a computer screen is not harmful to the eyes. It may be fatiguing to sit in one position for an extended period of time doing near work such as looking at a computer, but this is in no way harmful to the eyes.

10 Flourescent lights are not harmful to the eyes. A warm white color of fluorescent light is very similar to the incandescent spectrum of light. There are also some flourescent tubes made to have a daylight-type light distribution that are said to be better for one's eyes than the ordinary flourescent tubes; however, this has not been proven by any controlled studies.

11 Getting one's "second sight" — being able to read again without glasses — is a sign of poor eye health. It usually indicates that one is getting cataracts, and the lens within the eye is beginning to cloud in the nuclear portion in such a way that the eyes become nearsighted and the distance vision begins to diminish without the proper correction.



12 There are several different styles of bifocals to provide good vision. It is not necessary for the bifocal to be all the way across the bottom half of the lens. Some bifocal styles are better than others, depending on the distance correction a person needs. The bifocals with a horizontal bifocal segment edge cause less apparent jump of the image when one looks from the distance segment down into the near vision segment of the lens.

13 The tint in a lens is a matter of personal preference. Obviously when the light is bright, the pupils of the eyes constrict and this decreases the amount of light entering the eyes. Most of us are more comfortable with sunglasses when we are on the beach in bright sunlight reflected from the water or the white sand. The wearing of darkly tinted glasses indoors or in a dark environment may accustom one to this darkened lens so that he or she may find it hard to do without the tint comfortably.

14 Eye-related headaches are usually due to stress or fatigue and are rarely caused by the wrong glasses. When the glasses are not the best correction, then one does not see the best, but one may be perfectly comfortable and have no headaches.

15 The position of the bifocal in the glass and in the frame may be lower for the first pair of bifocals fitted than for the second pair. It is often easier to adjust to a pair of bifocals in which the bifocal segment is positioned a few millimeters lower than may be ideal later when the patient has gotten used to having the bifocal segment there. More often than not, one finds it convenient, after getting used to bifocals, to have the bifocal glass segment in a position that requires a minimum of chin raising to look through the near segment. Sometimes, a frame with an adjustable nose pad is useful so that the position of the bifocal can be changed by raising the frame on the face.

16 With use of a progressive bifocal, one may never need a trifocal, because the progressive bifocal is a multifocal lens with intermediate focusing ability as part of the lens system. Others may never need excellent vision at an intermediate distance and will always be satisfied with the bifocal kind of glasses. Any bifocal is a compromise between focal length and magnifying power for near; and as one gets older, one usu-

ally has to sacrifice range of clear near vision for more magnification from the bifocal segment.

17 Some oral medications may impair the ability to focus. It is best to read the brochure in the medication packet to determine if blurred vision is reported as a side effect of the drug.

18 There is nothing therapeutic about an ordinary contact lens in preventing the progression of nearsightedness. If the cornea has been molded by a contact lens, the cornea will resume its previous shape after a short interval of not wearing the lens.

19 Those who wear contact lenses for distance will need reading glasses over the contact lenses for near when they become old enough to have difficulty focusing. It is not unusual for contact lenses to be used to correct one eye for near vision and the other eye for distance.

20 Bifocal contact lenses and progressive bifocals are not satisfactory for everyone, but there are some individuals who function very well with these optical aids. Progress is being made in design of bifocal contact lenses. A lens that will work for more people is anticipated.

21 It may take several weeks or months to adjust to a new pair of glasses, particularly if there has been a marked change in the power. The introduction of a cylindrical component to the lens for the correction of astigmatism requires some adjustment. While most people can adjust to a bifocal, there are those who seem to be unable to do it even though they may try.

22 After becoming accustomed to having some blurred vision at one's feet through the bifocal, one can learn to function in a tennis match or a golf game with bifocal glasses. However, many people prefer a pair of glasses without the bifocal for playing sports.

23 Eating carrots or using some very special diet has not been demonstrated to be therapeutic in this country where for the most part there is not a problem with vitamin deficiency.

24 It is not true that reading a lot creates a need for glasses. Fatigue may be a problem with prolonged reading; however, just as one does not strain the brain by thinking, one does not strain the eyes by using them.

It has been interesting to note that there has been an especially high demand for eye evaluations during the period of final exams on campus. It seems that probably the greatest difficulty is from the stress of the finals, possibly from the students' lack of timely preparation for them. Most of the eye symptoms seem to disappear after exam week only to recur at the next time of general stress. □

Reference

1. Shields MB. Some facts about your eyes: a health quiz for physicians and their patients. NCMJ 1983;44:645-7.

National Study Shows Generics Not Necessarily a Better Buy

Generic drugs aren't always cheaper.

A recently published study in the *Journal of the American Medical Association* reveals that despite the advertising claims of companies that produce generics, prescription generics are not universally less expensive to consumers than their brand-name counterparts. Even when they are, the study finds, consumers must spend considerable time and money searching for the best buy because of wide price variation at drug stores.

"Saving money at the pharmacy counter has been touted as the sole advantage of generics over innovator products, but the savings just aren't there in every case," said Bernard Bloom, Ph.D., study investigator and research associate professor at the Leonard Davis Institute of Health Economics of the University of Pennsylvania. With some drugs — for example, Lasix and furosemide, or Premarin and conjugated estrogens — Bloom said that the generics cost more than the brands two-thirds of the time.

"Although the cost per pill paid by pharmacies is less for generics, that reduced price isn't always passed on to the public," Bloom continued. He pointed out that states mandating that generic drug savings be passed on to the consumers actually had a higher price per pill for *both* brand and generic than states that don't require pass-through.

The study also shows that consumers must shop extensively to obtain the lowest-cost prescription and weigh expected savings against the cost of this search. "In fact, consumers can never know whether they're getting the lowest price," Bloom pointed out. Prices fluctuate between pharmacies and within individual stores. The study further finds that pharmacies mark up generics more than comparable brands and realize a greater profit from generic sales more than half the time. "If the consumer can't be guaranteed the lowest price by buying generic, the reason for accepting a substitute product quickly evaporates," Bloom said.

The study in *JAMA*, funded by a grant from Ayerst Laboratories, reviewed pricing for 891,866 prescriptions written for 21 pairs of branded and generic drugs dispensed between April 1 and June 30, 1984. It involved 1,363 pharmacies — both chain and independent — in 39 states and included such widely prescribed drugs as Lasix (furosemide), Premarin (conjugated estrogens), Indocin (indomethacin), and Librium (chlordiazepoxide).

What Is a Hospital Chaplain?

P. Wesley Aitken

The practice of having clinically trained clergy in hospitals dates back to the late 1920s and the early 1930s in some of the Northeastern states. However, the surge of interest in hospital chaplaincy came in the late 1940s following World War II. As Veterans Administration hospitals were built, the military model of chaplaincy was transferred into them and all of those who filled the positions at that time were former military chaplains.

The earliest programs in private North Carolina hospitals were at Baptist Hospital in Winston-Salem and then Duke University Hospital in Durham. The Baptist Hospital had chaplains on its staff as early as 1946 and began clinical training programs for clergy in 1947. Duke Hospital began its chaplaincy program and its clinical training program for clergy in 1956.

Today, just about all of the larger hospitals in the cities of North Carolina and also the county hospitals have chaplains on staff. Even so, some people still ask the old question, "Why should a hospital have a minister full-time on the staff when there is a continual stream of community ministers in and out of the hospital every day?" It might be timely to attempt to answer that question once again and to review the status of the movement.

Helping the Patient Cope

As health care professionals have fought diligently to increase the *quantity* of life for people, there has been growing concern on the part of health professionals and allied health professionals for the *quality* of life both during the hospital stay and also once the patient has returned home. When we study seriously the quality of life patients live while in our hospitals, we realize that not only is quality of life capable of increasing or decreasing the actual quantity of life, but the way a person copes with an illness while hospitalized can speed or slow the recovery. It follows then that if a patient makes healthy effective use of his or her religious beliefs and philosophy of life while coping with the adversities associated with illness, the quality of life while in the hospital can be improved and the length of stay in the hospital might be shortened.

Some of the great questions of life, such as those surrounding suffering, are asked and answered repeatedly throughout one's life. The answers may change but the questions always remain the same. Some of these great questions predictably confront people once again when they become ill. The questions take this form:

Something is happening to me that bothers me, makes me uncomfortable, causes me pain or limits my ability to function. I don't like it. Can I change what is happening to me?

If I can't change what is happening to me or get control over what is happening to me, can my physician?

If I can't change or get control over what is happening to me, and my physician can't, who is in control of what is happening to me?

Who or what is either causing this or letting this happen to me? Why?

Does this power or control that is beyond me and my physician like me or dislike me?

Can I affect or influence in any way this power or control which is beyond be and my physician?

What is my relation to this power or control and what should be my attitude toward it?

Most people turn to their religion and philosophy for the answers, and there are about as many answers as there are people. The answers do fit into general categories, however, and take rather specific forms. It is the expertise of the hospital chaplain (a clinically trained clergyperson) to help people struggle with the questions and find answers that are reasonably satisfying to patient and family.

Why Have a Special Chaplain?

In contrast to the hospital chaplain's approach, community clergy who are related closely to religious groups such as churches and synagogues are personally committed (and feel some obligation) to give the answers embraced by their respective religious groups. This is an important difference between a hospital chaplain and a community clergyperson.

To elaborate on it just a little more, some community clergy feel an obligation not only to tell the patient there is only one set of answers but also to stress that if the patient does not accept those specific answers he or she will not get well and will be damned. Hospital chaplains do not give answers, they help patients and family struggle with the questions and find their own answers.

It is obvious that there could be Jewish answers to the questions as well as Protestant Christian answers or Fundamentalist answers or Hindu answers or Moslem answers or even atheist answers. The questions do not change, only the answers change.

From the Director, Chaplains Service, P.O. Box 3112, Duke University Medical Center, Durham 27710.

Hospital Chaplains' Clinical Training

What consitutes the clinical training received by the hospital chaplain? As early as 1925, Dr. Richard Cabot, a renowned physician at Massachussetts General Hospital, advocated that all clergy, like physicians, be required to take a clinical internship. He believed it would enrich ministry even at that day and time. Today, if a clergyperson wants to qualify as a certifiable hospital chaplain by the national "College of Chaplains," that person must have completed at least a twelve-month clinical internship.

The clinical training programs for clergy are nationally standardized and nationally accredited as clinical pastoral education programs by the Association for Clinical Pastoral Education in Atlanta, Georgia. Students are selected rather carefully. If an applicant is an enthusiastic advocate of a specific or exclusive set of answers to the questions mentioned above, that person is not likely to be a good candidate for Clinical Pastoral Education and hospital chaplaincy. That person would not be free enough to allow a patient to arrive at a set of answers different from those zealously claimed by the student. A good candidate for Clinical Pastoral Education and hospital chaplaincy should be comfortable enough with his or her answers to the questions and familiar enough with the struggle to achieve those answers that he or she would be willing for a patient to arrive at different answers.

Following the selection of the candidates, the students are placed in small peer groups (maximum of six) and are required to begin functioning as hospital chaplains after some basic orientation and limited training. By the end of the first week the student is on the ward functioning as a student chaplain under close supervision. Each group has its own clinical supervisor, and the six-member groups will meet with their supervisors at least twice a week in order to reflect upon the efforts to counsel and help people. There are also individual supervisory sessions so that each student gets close support and close surveillance with yet enough freedom to work on the wards and function as chaplain.

The didactic studies of the student can be in a variety of areas but certainly some training in counseling and psychology and in stress and grief will be required. In order to qualify for Clinical Pastoral Education a student must have completed or be nearing completion of his or her formal theological education. As a physician must go to medical school and then do a clinical internship, so must a chaplain go to divinity school or seminary and then do a clinical internship.

The Extent of Need

Not all patients or family members need the specialized assistance of a hospital chaplain. As many as 85% of the patients and family members will handle their hospital experiences without difficulty by making use of their relationahips with their physicians, general hospital staff, family and home people including their clergy. Approximately 15% of the patients will need specialized assistance. This will vary somewhat according to the individual hospital and the type of care that it provides.

In addition to helping patients and family members, chaplains are available to staff and hospital personnel for counseling usually limited to patient care issues. This includes facilitating grief and assisting in stress management. Hospital chaplains also often serve in some capacity on hospital ethics committees and patient care committees. They are the liaison with the religious groups and the clergy of the community.

If more than one chaplain is needed, a hospital can turn to community clergy for backup. If more extensive and around-the-clock coverage is needed, it is wise and economically advisable for a hospital to consider employing one senior staff chaplain who is certified as a supervisor of Clinical Pastoral Education and then fund the tuition of the chaplain interns or residents as payment for services rendered. In this way, a hospital can obtain a very high quality of chaplaincy for the salary of one senior staff chaplain. In a sense, a hospital can get four or five chaplains for the price of one.

The economics of health care has forced cuts in some hospital chaplaincy programs. However, I believe hospital chaplaincy is here to stay. It makes a significant contribution to the total health care provided by institutions if only through bedside conversations helping patients and families cope. The religious rites, sacraments, and ceremonies also provided or arranged by the Hospital Chaplain are important, but the principal contribution will always be the pastoral conversation and counsel. □

Announcement from the AMA Auxiliary

A series of booklets focusing on the special concerns of medical families is being published by the American Medical Association Auxiliary. This series is part of the AMA Auxiliary's ongoing effort to provide education and support on issues affecting the lives of physicians' spouses and their families.

Titled "What Every Physician's Spouse Should Know," the series currently features booklets on: impairment; professional liability; survival tips for resident physician/medical student spouses; a booklet on the medical marriage that will focus on how physicians and spouses cope with the special concerns of the training, practice, and retirement years; and a booklet on retirement and estate planning, providing essential information on how physicians and spouses should plan for these two important phases of life.

The cost for all booklets in this series is $5 per copy. For AMA Auxiliary members, there is a special price of $3 per copy.

To purchase, send prepaid orders to the AMA Auxiliary, 535 N. Dearborn St., Chicago, IL 60610. For further information, call Betsy J. Davis, 312/645-4470.

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Policing the Practice of Medicine

Eugene W. Linfors, M.D., editor

• *The question for February is: "Should our Medical Society play a greater role in policing the practice of medicine?"*

From Harold L. Godwin, M.D., Medical Director, Fayetteville area health education foundation.

I have three suggestions for a greater role in policing the practice of medicine by the North Carolina Medical Society. I suggest it continue to encourage the passage of legislative proposals brought by the Board of Medical Examiners in the spring of 1986. I also suggest that the society encourage a more forceful role of local peer review by appropriate county society committees and hospital staff groups. My third suggestion will follow some observations about the Board of Medical Examiners.

On the board for 12 months, I am now reasonably knowledgeable about its procedures. The administrative staff is first-rate and the Board convenes frequently and for very long intervals. Discussions end with well deliberated, firm but compassionate conclusions based always on the concrete yardstick: "Would this be acceptable medical practice for my family?" The majority of Board activities are never apparent because informal interviews are always held behind closed doors.

The Board operates under many investigative and disciplinary restraints which both the medical and general public erroneously assume are ordinary Board prerogatives. Only licensed physicians come under Board jurisdiction and this means that even flagrant malpractice activities of non-physicians are not subject to the medical examiners but rather to the Attorney General's Office. There they are a low priority when compared with other more weighty legal matters and often simple fines of $25 result and the activity may resume. There are also many M.D.s who are not members of the medical society nor of any hospital staff. Medical transgressions in this arena are difficult to uncover unless informants are forthcoming. Informants, contrary to general misunderstanding, always remain confidential.

My third suggestion involves a reversal of the current method of handling the physician who is abusing substances, himself, his patients or all three. Now, discipline is first and help is second. I feel strongly that this should be turned around. The concept is not new and has been extremely successful in other states. Our present system depends primarily on the donation of interest and time by members of the society's Physician's Health and Effectiveness Committee. As the numbers grow, this is obviously unfair to the Committee, unwieldy for the Board and unwise for the sick physician.

Funding for a new approach to the impaired physician is an obstacle which must be overcome. In this connection, the leadership of the Medical Society and the Board of Medical Examiners are discussing a joint venture and it is my hope that this will be quickly endorsed by all concerned.

From A. Eugene Douglas, M.D., a psychiatrist in Lumberton.

The question posed by this month's Physicians' Forum is to say the least quite difficult. I feel that the answer to the question is yes, however, I am not at all sure how this can be accomplished but will offer the following thoughts. Currently the North Carolina Board of Medical Examiners does an excellent job of dealing with physicians who "break the law." The Impaired Physicians Committee of the North Carolina Medical Society is making a significant impact in dealing with impaired physicians. These are physicians who are primarily substance abusers. Hospitals generally monitor quite carefully privileges, credentials and through quality assurance activities, length of stay, pathology reports, etc. In most areas the hospitals are identifying problem areas and ways of managing these problems. The possible exception here is that there are many free-standing psychiatric hospitals where the main order of business continues to be "cashectomies." We are all familiar with PSROs, PROs, etc. and again they have been effective in some areas but have subjected the conscientious and ethical practicing physician to what might best be described as "harassment." A recent letter to the editor in the *North Carolina Medical Journal* by James A. Bryan II, M.D., eloquently speaks to that issue (1986; 47:281).

What seems to be missing is an acceptable forum within which the general public can express concerns about medical care. These concerns have to do with accessibility, competence, quality of care, appropriateness of care, cost of care, etc. It is true that the medical society has a grievance committee that can address these issues, however, the public is not generally aware of that procedure.

Would it make any sense for the North Carolina Medical Society to actively initiate a "PR" campaign to inform the general public that there is a process by which their

From 306 Gregson St., Durham 27701

concerns can be addressed? Many complaints would undoubtedly be petty and inappropriate but some would not. Might the general public perceive this as a genuine effort on the part of the medical community to "police" itself?

Many will have objections and perhaps they are right. However, alternatives are even more bleak. I feel that the general public will continue to pressure the political structures to develop additional PSROs, PROs, DRGs, etc., and that eventually the political system will respond with more and more controls ultimately leading to a socialized system of medical care much as exists now in Britain. I personally do not believe the political structure is the answer, but you can be sure it will provide the "the answer" if we do not.

The medical society proposes to spend millions to "lobby" for tort reform in reference to the malpractice crisis. Could this money be better spent convincing the general public that we as physicians are concerned and willing to develop an appropriate forum for these concerns? There could be no better lobby than a return to the days when the medical profession was considered an essential and honorable profession.

This concept is probably far too idealistic in view of the historical traditions of the medical profession of fraternalism and protectionism. However, failure to satisfactorily address this issue will inevitably further reduce our credibility.

From Martin L. Brooks, M.D., a physician in Pembroke.

There is little wrong with the practice of medicine today that a good dose of honesty would not fix. Awareness of our limitations as human beings and as physicians and acceptance of those limitations could go a long way in establishing a brotherhood among physicians and their fellow travelers (patients).

As I see it, one of our most effective ways of policing ourselves is by taking a greater leadership role in educating our patients (good followers make good leaders).

When President Truman was asked about appointing an ethics committee for the U.S. Senate, he whipped back, "What is wrong with the Sermon on the Mount?"

We physicians might do well to ponder the same question and seek individually and collectively to be more like the man Luke referred to as "The Beloved Physician."

From Thomas E. Fitz, M.D., an internist in Hickory.

As I have just gone off of the Board of Medical Examiners (after six years of service), I have strong opinions relative to the need for our Medical Society to play a greater role in policing the practice of medicine in our state. One would have to be knowledgeable of the Board of Medical Examiners' activities, both their informal and formal, to see the need for greater participation. Unfortunately, not all of our practicing physicians are members of our Medical Society.

This brings me to how the society could play a role. As the society is made up of individuals, each member should consider it his or her responsibility or duty to uphold the highest standards of medical practice. Whenever anyone is knowledgeable of acts or activities not consistent with the highest standards, he or she should be willing to stand up and be counted. By this I mean one could act on the local county society level, friend-to-friend level, etc., and confront the individual as to the problem. Whether it be substance abuse, incompetency, unprofessional conduct, these should be pointed out and actions taken. One should not hesitate, after the facts are established, to report these individuals, if necessary, to the Board of Medical Examiners. On the other hand, there is a hesitancy "not to become involved," and the Board's action may well be hampered. If the Medical Society could arouse the responsibility of the individual to work for the good of all, then policing the practice of medicine by our Medical Society might well be of value. As I understand it, policing means to gather information. I feel that with that information obtained, then the decision as to what to do with it remains. It is the Board of Medical Examiners' responsibility to act on that information. The Board can only act where there is a willingness for "witnesses" to testify.

There has been a good working relationship between the North Carolina Medical Society and the North Carolina Board of Medical Examiners. I should think that this could be continued and strengthened.

From Eban Alexander, Jr., M.D., a surgeon at Bowman Gray School of Medicine in Winston-Salem.

The answer to the question is "yes."

How?

I. A) The North Carolina Medical Society can pass resolutions recommending for or against forms of treatment or health hazards which can and should influence medical practice.

The best example of that is the resolution passed some years ago concerning the inadvisability of using amphetamines and other appetite suppressor drugs for weight loss.

This particular resolution has had a significant impact on the practice of medicine in North Carolina particularly because of the use of this resolution by the North Carolina Board of Medical Examiners.

B) The North Carolina Medical Society shares responsibility for judgment concerning physicians practicing in North Carolina who make excessive use of alcohol or other drugs. This is a relatively small number of physicians but the state medical association has taken a strong position in its "impaired physicians program." This position needs to be stronger, supported by better financial background, and made truly helpful to physicians impaired by the use of alcohol and/or drugs. Such physicians are not only a threat to themselves but to the patients for whom they care.

The North Carolina Medical Society does and should to a greater extent support the functions of peer review efforts by the hospital staff of various hospitals of the state.

The North Carolina Medical Society should continue supporting in every way it can the disciplinary functions of the grievance committees of the county medical associations.

In addition to this, every individual who is licensed to practice in North Carolina is interviewed by at least one member of the Board of Medical Examiners or the Ex-

ecutive Director of the Board before a license is granted. If there is a question in the minds of the single examiners, that applicant is asked to appear before the entire Board of Medical Examiners at its next meeting.

The North Carolina Medical Society should seek to support in every way it can the strengthening of the function of the N.C. Board of Medical Examiners by advocating and lobbying for changes in legislation to give the Board of Medical Examiners powers to enforce its judgments on an equitable basis.

The Board of Medical Examiners is concerned with many major problems:

1. alcoholism
2. drug abuse
3. illegal prescribing habits by physicians
4. the committing of a felony
5. the committing of a fraud
6. criminal activities of any sort
7. medical incompetence
8. abetting the illegal practice of medicine by those not licensed as physicians
9. sexual intimacy with patients
10. overcharging of patients
11. notice of disciplining or discharge from a hospital staff

In all of these matters, the Board gives prolonged consideration to each subject brought before it with the aid of competent legal assistants.

In conclusion, it is of utmost importance that the judicial system of North Carolina support the confidentiality of peer review: records at the hospital level, the local medical society level, the state medical association level, and the North Carolina Board of Medical Examiners.

From Charles H. Duckett, M.D., a practicing physician and faculty member at East Carolina University School of Medicine in Greenville.

Through its constitution, the medical society represents the physicians of the state and is provided the responsibility to elevate the standards and quality of care provided to patients by those physicians. Therefore, it is an innate responsibility of the medical society to assist in "policing" the practice of medicine in our state.

The Board of Medical Examiners is the body established by statute to properly regulate the practice of medicine and surgery and to protect the well-being of the citizens through its actions. The methods for formal disciplinary proceedings, however, are cumbersome and time-consuming, and often the Board is able to address only the major problems while multiple lesser problems may not be addressed adequately through early intervention and a "preventive" approach. Though the medical society is active in some investigation of complaints and allegations relating to physicians, the methods to do more could be expanded through legislation which would provide proper protection from liability.

A major need for reporting and follow-up is in the area related to the impaired physician, including those who are physically or mentally ill, dependent upon alcohol and/or drugs, or too cognitively incompetent to practice safely. Currently, the Health and Effectiveness Committee of the medical society has a number of diligent physician volunteers who spend untiring effort in the rehabilitation of impaired physicians. But, these volunteers could be much more efficient with a central organization, including at least a physician and a secretary, to provide the continuity of contact and follow-up that the impaired physician needs for successful recovery. Special treatment centers might be developed and supported by the medical society at a later time.

This is but one example of how the medical society can be helpful in identifying and assisting the impaired physician to recovery. The Board of Medical Examiners can also assist the medical society in this sense, but the Board is the body that must retain the responsibility for mandated corrective and probationary action. The concerted effort of both to maintain the quality of care of patients at a level of excellence should be the goal. Yes, the medical society through its collective membership should play a greater role in policing the practice of medicine in our state.

From E. Harvey Estes, Jr., M.D., an internist at Duke University Medical Center, Durham.

The North Carolina Medical Society plays an important role in a certain type of "policing," but it has severe limitations in other types.

In the area of poor communication between doctor and patient, the medical society, through county and state society mediation committees, serves a very useful role, which could be made more important by publicizing this activity more widely. These conflicts usually involve fee disputes, lack of response to requests for records, and similar matters. The parties involved have reached an impasse, but remain receptive to an outside mediator. The doctor is often not aware of the dispute, which has been carried on by members of his office staff. An opinion by the physician's peers is generally appreciated and honored by the two parties, relieving the tensions and avoiding litigation.

These disputes are usually relatively minor in severity and represent misunderstandings between rational and reasonable people.

In other "police" actions, the medical society is almost helpless. There are physicians whose activities are at the fringes or beyond the bounds of ethical or scientific practice, and who are usually fully aware of this fact. They continue their activities because it is profitable, or it is the only type practice they know.

In such cases the medical society is almost totally impotent. These offenders usually have little regard for peer opinion. The only way to offset their behavior is by application of sanctions — fines, prison sentences, denial of privileges, withdrawal of licenses, etc. The medical society has only one sanction at its disposal — ejection of the offender from its ranks. This is usually an ineffective gesture.

The only effective organizations for this type of policing are those capable of imposing sanctions — hospital boards, licensing boards, and criminal courts. When the medical society attempts to deal with this type offender, it also

opens itself to litigation, without the legal protection available to the above groups.

It is my belief that a better course of action is for the medical society to refer these cases to the Board of Medical Examiners, or hospital medical staffs, for further investigation and action.

From Charles R. Vernon, M.D., a physician in Wilmington.

The answer is, "Yes and no."

Yes, NCMS is vitally concerned with quality of medical practice. The fundamental professional interest of each physician and thus NCMS is the health of the individual, the family, and the community. This interest and concern are best served by the Society's supporting peer review and continuing education. Where there is evidence of poor quality of care the interest of NCMS is in providing help and support to improve the standard of care of the physician involved, complementing local mechanisms within county medical societies and/or community hospitals. Redress would be by appropriate prescriptive remedial education or prescriptive treatment and rehabilitation, and in some instances both, orchestrated through an appropriate existing committee (like the committee on physicians' health and effectiveness or committee on medical education). A monitoring system, such as already exists in the committee on physicians' health and effectiveness, should be provided for an extended period of time. This can be implemented by expanding and extending existing resources within the society, again, complementing local resources.

No, NCMS should not be in the business of policing the practice of medicine in our state. The Society is an organization based on a collegial relationship, not a big brother one. And our interest is not just in being sure there is a minimum standard of care. We are interested in a high standard of care, with consideration of cost, but dictated by best quality, by the best interest of the patient.

"Collegial" is the proper word in this context. We are all teachers and learners, and the Society is obliged to provide a means to promote the teacher and learner in each of us, please!

• *Editor's Note: Careful readers of our opinions this month will be aware of what the North Carolina Medical Society is already doing to police the practice of medicine as well as some good suggestions for an expanded role. The message from our respondents would seem to be that the medical society can and should support good faith efforts to identify and help the impaired physician, local attempts at peer review, and the establishment of a forum for the general public to express concerns about medical care.*



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MEDICAL EDUCATION

The View from the Bed

Mark W. Swaim

DOCTORS are bad patients, but medical students are worse. Textbook knowledge is our undoing. We know what *might* be wrong with us and confront our own aches and palpitations with abject terror.

I began caring for patients never having been one. I approached suffering with both compassion and the confident naivete of one who never has suffered, who takes his own health for granted — hospitals, after all, are for *sick* people. My white coat was for me a subliminal guarantee of immunity to illness. *House of God* Rule Number IV: The *patient* is the one with the disease.

When I doubled over with monumental abdominal pain this summer, the inviolability of my health ended abruptly. Lab-mates whisked me off to the emergency room where I became, for the first time, a patient. I was terrified. Did I have a twisted or obstructed bowel? A kidney stone? A perforation or rupture?

A year ago I had worked in this same ER caring for terrified patients on stretchers. Now I was on a stretcher, writhing and panting in excrutiating pain, being wheeled to a familiar radiology suite for emergency x-rays of my belly.

A resident reinforced my worst fear: "Looks like you may have perfed." A perforated intestine . . . a hole in my bowel . . . peritonitis . . . emergency surgery. I wanted someone to read the riot act to my raging innards.

Medical students who become patients are afforded red-carpet treatment, cared for by their professors. A graying, bearded man in a white coat came to my bed.

"Hi, Mark, I'm Dr. S." I knew he was chief of the emergency room, and he meticulously examined my abdomen. "Your x-rays aren't back yet," he said soothingly.

Suddenly I was seized with a searing spasm deep in my viscera. "I can't stand it!" I screamed, groping at my belly. I pleaded for pain medication.

Dr. S. squeezed my hand. "Mark! MARK! You're a medical student! You know we can't give you anything until we know what's wrong."

Sobbing, with teeth clenched in agony, I nodded.

I had forsaken all reason. I had become like a colicky horse that injures itself by thrashing in pain and panic. I was ready to commit *seppuku* with the nearest scalpel.

"Physician, heal thyself" mocked me.

"I'm having the nurse draw blood and start an intravenous," Dr. S. said. "I'm also sending a surgeon in to look at you."

I winced as the nurse plunged an eighteen-gauge needle deep into my forearm. I had started i.v.s many times and knew what came next. I felt warm blood trickling onto my forearm.

After what seemed an eternity, I learned my x-rays had appeared normal except for a small bowel inflated like a balloon. "Looks like bad bowel spasms, but you haven't ruptured anything." the resident said. The next hours were a ritual of rectal and intestinal indignities, familiar if you're a doctor, painful if you're a patient.

Five hours after I had arrived at the emergency room, my bellyache began to subside, gradually, as mysteriously as it had come. Exhausted, I dozed as fluid dripped into my veins.

The doctors were baffled. Had I passed a kidney stone? No, the pain wasn't the right kind and my urine was normal. A twisted bowel? Maybe, but the pain had gone away. Food poisoning? Maybe, but I had no fever or nausea. Merely severe intestinal spasms? Probably, but why?

I left thinking about an OB-GYN resident I knew who, having given birth to her first child, swore she'd never deliver a patient's baby the same way again. Likewise, I am sure I'll never approach patients the same way again.

For most of us, health is like stage lighting: we notice it only when it's bad. I've learned to appreciate the absence of pain, and that some things I do to patients *hurt*. Needles are bigger on the receiving end. And bedpans are embarrassing. I've put these experiences into a mental Rolodex to help me view patients from the bed instead of only from the bedside.

I realized pain can turn anyone into a gibbering heap. Within half an hour of my attack I had become a Whitman's Sampler of fears: fear of dying, of surgery, of disease, of future impairment. Three years of medical education suddenly counted for naught, and "Will I be okay?" became a far more pressing concern to me than any diagnostic challenge I posed.

I learned more in one afternoon than in any medical school course, and I left the hospital understanding for the first time why the wounded physician is the best healer.

I had gotten my comeuppance, as Orson Welles said of George Amberson, "three times filled and running over." □

From Duke University Medical Center, P.O. Box 2789, Durham 27710.
Previously published in the Spectator Magazine of the Triad, August 14-20, 1986.

The Patient from Whom I Learned Most

Remembering Bonnie

Richard D. Kenney, M.D.

I had seen Bonnie a number of times over the years before she turned 13, for the typical office visit problems: upper respiratory infection symptoms, camp physicals, a rash. She would sit on the exam table, speaking only when spoken to, taking her cues from Mom, who was "raised right," being always deferential and courteous.

Shortly after school restarted, Bonnie came in because of a stomach ache of two day's duration. She didn't look ill, sitting in her compliant way. Mom's placidity gave no clue of concern. The history was not helpful. During the physical exam, I saw a well-distributed female escutcheon and axillary hair. "Better do some more checking," I thought.

"Bonnie, would you please loosen your bra so I can check your breasts?"

"Is there a problem, doctor?"

"No, Mrs. P., just checking. Have you seen your period yet, Bonnie?"

"No, she hasn't, doctor, but we've talked about it."

"Well, getting back to the abdominal pain, I don't find too much. Maybe it's a viral illness starting up. Let's just check the urine to be sure it's not an infection in the kidney system."

"That's fine, because she did vomit the last week or so. Didn't I hear you when you first got up, Bonnie?"

"Yes'm," shrugged Bonnie.

"OK, let's check the urine. I'll be right in after we do that. I'll ask my nurse to help you."

Allowed only the time that most pediatricians have to construct an explanation for a patient's symptom, that time between exam rooms, I wondered if she could be pregnant. She was premenarchal but her physical sexual maturity was worrisome. Could the vomiting be morning sickness? I thought I'd better ask some more questions. In the meantime, I ordered a pregnancy test.

Thirty minutes later: "Doctor K., here is the result on that urine you ordered." Urinalysis — negative. Pregnancy test — POSITIVE.

Yikes! Little meek Bonnie?! She hasn't even had her first period yet! Can I trust this test?

Well, I went back in, asked Mrs. P. to leave and talked with Bonnie.

After a few tangential inquiries that gave me no response, I said, "Bonnie, I don't know if you know it or not, but we sometimes use a urine test to find out if someone is pregnant. When we did your test, it came back positive. Do you think you could be pregnant?"

Teenagers talk with their eyes, with their bodies. "Me?" she shrugged, with an expression that indicated I was way off base. "I haven't had a period yet."

"You're right. It would be unusual. Have you been with anyone in the past two or so months?" I deliberately left out the verb, "sleeping," for teenagers can't conceive of having such a luxury.

"Whaddya mean?"

"Have you had sex with anyone?" Another euphemism they have no concept of is "making love."

"During the summer, this guy I met, Larry, and I were kissing and stuff. Just fooling around."

Seems like a lot of that goes on — fooling around. More than a little truth in that phrase, considering how foolish it is and how they are only fooling themselves. This premenarchal girl had gone from no menses because of her developmental age, to no periods because she was pregnant.

Bonnie taught me all right. Anyone who is physically capable of becoming pregnant can be. In the adolescent age group, if the complaint is vague, the history doesn't mesh with physical exam, or the problem is genitourinary, consider a pregnancy test. I've learned that patients like Bonnie will come in with aches and pains, intermittent abdominal pain, or malaise. On those occasions when I have hurried an interview or allowed myself to be convinced that pregnancy is an unlikely possibility, I have soon regretted not remembering Bonnie. □

From the Department of Pediatrics, Charlotte Memorial Hospital & Medical Center, Charlotte 28232



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(In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.)

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Help free your patients from recurrences.

Daily therapy

Coping with genital herpes is rarely easy. For some, the worst part is the pain and discomfort of frequent attacks—month after month, year after year. For others, the emotional burden presents a more difficult problem, leading to social isolation, anxiety, and diminished self-esteem.

Prevent or reduce recurrences

Although your patients have to live with herpes, they shouldn't have to suffer. Daily therapy with ZOVIRAX CAPSULES can help free them from the cycle of recurrent genital herpes. For many, one capsule three times a day can suppress recurrences completely while on therapy.

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The physical and emotional difficulties posed by genital herpes are unique for each patient. The frequency and severity of recurrent episodes, as well as the emotional impact of the disease, should be considered when selecting daily therapy with ZOVIRAX CAPSULES.

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Prevent recurrences month after month*

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Brief Summary

INDICATIONS AND USAGE: Zovirax Capsules are indicated for the treatment of initial episodes and the management of recurrent episodes of genital herpes in certain patients.

The severity of disease is variable depending upon the immune status of the patient, the frequency and duration of episodes, and the degree of cutaneous or systemic involvement. These factors should determine patient management, which may include symptomatic support and counseling only, or the institution of specific therapy. The physical, emotional and psychosocial difficulties posed by herpes infections as well as the degree of debilitation, particularly in immunocompromised patients, are unique for each patient, and the physician should determine therapeutic alternatives based on his or her understanding of the individual patient's needs. Thus Zovirax Capsules are not appropriate in treating all genital herpes infections. The following guidelines may be useful in weighing the benefit/risk considerations in specific disease categories:

First Episodes (primary and nonprimary infections — commonly known as initial genital herpes):

Double-blind, placebo-controlled studies have demonstrated that orally administered Zovirax significantly reduced the duration of acute infection (detection of virus in lesions by tissue culture) and lesion healing. The duration of pain and new lesion formation was decreased in some patient groups. The promptness of initiation of therapy and/or the patient's prior exposure to Herpes simplex virus may influence the degree of benefit from therapy. Patients with mild disease may derive less benefit than those with more severe episodes. In patients with extremely severe episodes, in which prostration, central nervous system involvement, urinary retention or inability to take oral medication require hospitalization and more aggressive management, therapy may be best initiated with intravenous Zovirax.

Recurrent Episodes:

Double-blind, placebo-controlled studies in patients with frequent recurrences (6 or more episodes per year) have shown that Zovirax Capsules given for 4 to 6 months prevented or reduced the frequency and/or severity of recurrences in greater than 95% of patients. Clinical recurrences were prevented in 40 to 75% of patients. Some patients experienced increased severity of the first episode following cessation of therapy; the severity of subsequent episodes and the effect on the natural history of the disease are still under study.

The safety and efficacy of orally administered acyclovir in the suppression of frequent episodes of genital herpes have been established only for up to 6 months. Chronic suppressive therapy is most appropriate when, in the judgement of the physician, the benefits of such a regimen outweigh known or potential adverse effects. In general, Zovirax Capsules should not be used for the suppression of recurrent disease in mildly affected patients. Unanswered questions concerning the human relevance of *in vitro* mutagenicity studies and reproductive toxicity studies in animals given very high doses of acyclovir for short periods (see Carcinogenesis, Mutagenesis, Impairment of Fertility) should be borne in mind when designing long-term management for individual patients. Discussion of these issues with patients will provide them the opportunity to weigh the potential for toxicity against the severity of their disease. Thus, this regimen should be considered only for appropriate patients and only for six months until the results of ongoing studies allow a more precise evaluation of the benefit/risk assessment of prolonged therapy.

Limited studies have shown that there are certain patients for whom intermittent short-term treatment of recurrent episodes is effective. This approach may be more appropriate than a suppressive regimen in patients with infrequent recurrences.

Immunocompromised patients with recurrent herpes infections can be treated with either intermittent or chronic suppressive therapy. Clinically significant resistance, although rare, is more likely to be seen with prolonged or repeated therapy in severely immunocompromised patients with active lesions.

CONTRAINDICATIONS: Zovirax Capsules are contraindicated for patients who develop hypersensitivity or intolerance to the components of the formulation.

WARNINGS: Zovirax Capsules are intended for oral ingestion only.

PRECAUTIONS: General: Zovirax has caused decreased spermatogenesis at high doses in some animals and mutagenesis in some acute studies at high concentrations of drug (see PRECAUTIONS — Carcinogenesis, Mutagenesis, Impairment of Fertility). The recommended dosage and length of treatment should not be exceeded (see DOSAGE AND ADMINISTRATION).

Exposure of Herpes simplex isolates to acyclovir *in vitro* can lead to the emergence of less sensitive viruses. The possibility of the appearance of less sensitive viruses in man must be borne in mind when treating patients. The relationship between the *in vitro* sensitivity of Herpes simplex virus to acyclovir and clinical response to therapy has yet to be established.

Because of the possibility that less sensitive virus may be selected in patients who are receiving acyclovir, all patients should be advised to take particular care to avoid potential transmission of virus if active lesions are present while they are on therapy. In severely immunocompromised patients, the physician should be aware that prolonged or repeated courses of acyclovir may result in selection of resistant viruses which may not fully respond to continued acyclovir therapy.

Drug Interactions: Co-administration of probenecid with intravenous acyclovir has been shown to increase the mean half-life and the area under the concentration-time curve. Urinary excretion and renal clearance were correspondingly reduced.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Acyclovir was tested in lifetime bioassays in rats and mice at single daily doses of 50, 150 and 450 mg/kg given by gavage. There was no statistically significant difference in the incidence of tumors between treated and control animals, nor did acyclovir shorten the latency of tumors. In 2 *in vitro* cell transformation assays, used to provide preliminary assessment of potential oncogenicity in advance of these more definitive life-time bioassays in rodents, conflicting results were obtained. Acyclovir was positive at the highest dose used in one system and the resulting morphologically transformed cells formed tumors when inoculated into immunosuppressed, syngeneic, weanling mice. Acyclovir was negative in another transformation system considered less sensitive.

In acute studies, there was an increase, not statistically significant, in the incidence of chromosomal damage at maximum tolerated parenteral doses of 100 mg/kg acyclovir in rats but not Chinese hamsters; higher doses of 500 and 1000 mg/kg were clastogenic in Chinese hamsters. In addition, no activity was found after 5 days dosing in a dominant lethal study in mice. In 6 of 11 microbial and mammalian cell assays, no evidence of mutagenicity was observed. At 3 loci in a Chinese hamster ovary cell line, the results were inconclusive. In 2 mammalian cell assays (human lymphocytes and L5178Y mouse lymphoma cells *in vitro*), positive responses for mutagenicity and chromosomal damage occurred, but only at concentrations at least 400 times the acyclovir plasma levels achieved in man.

Acyclovir has not been shown to impair fertility or reproduction in mice (450 mg/kg/day, p.o.) or in rats (25 mg/kg/day, s.c.). At 50 mg/kg/day s.c. in the rat, there was a statistically significant increase in post-implantation loss, but no concomitant decrease in litter size. In female rabbits treated subcutaneously with acyclovir subsequent to mating, there was a statistically significant decrease in implantation efficiency but no concomitant decrease in litter size at a dose of 50 mg/kg/day. No effect upon implantation efficiency was observed when the same dose was administered intravenously. In a rat peri- and postnatal study at 50 mg/kg/day s.c., there was a statistically significant decrease in the group mean numbers of corpora lutea, total implantation sites and live fetuses in the F_1 generation. Although not statistically significant, there was also a dose related decrease in group mean numbers of live fetuses and implantation sites at 12.5 mg/kg/day and 25 mg/kg/day, s.c. The intravenous administration of 100 mg/kg/day, a dose known to cause obstructive nephropathy in rabbits, caused a significant increase in fetal resorptions and a corresponding decrease in litter size. However, at a maximum tolerated intravenous dose of 50 mg/kg/day in rabbits, there were no drug-related reproductive effects.

Intraperitoneal doses of 320 or 80 mg/kg/day acyclovir given to rats for 1 and 6 months, respectively, caused testicular atrophy. Testicular atrophy was persistent through the 4-week postdose recovery phase after 320 mg/kg/day; some evidence of recovery of sperm production was evident 30 days postdose. Intravenous doses of 100 and 200 mg/kg/day acyclovir given to dogs for 31 days caused aspermatogenesis. Testicles were normal in dogs given 50 mg/kg/day, i.v. for one month.

Pregnancy: ***Teratogenic Effects:*** Pregnancy Category C. Acyclovir was not teratogenic in the mouse (450 mg/kg/day, p.o.), rat (50 mg/kg/day, s.c.) or rabbit (50 mg/kg/day, s.c. and i.v.). There are no adequate and well-controlled studies in pregnant women. Acyclovir should not be used during pregnancy unless the potential benefit justifies the potential risk to the fetus. Although acyclovir was not teratogenic in animal studies,. the drug's potential for causing chromosome breaks at high concentration should be taken into consideration in making this determination.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when Zovirax is administered to a nursing woman. In nursing mothers, consideration should be given to not using acyclovir treatment or discontinuing breastfeeding.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS — Short-Term Administration: The most frequent adverse reactions reported during clinical trials were nausea and/or vomiting in 8 of 298 patient treatments (2.7%) and headache in 2 of 298 (0.6%). Less frequent adverse reactions, each of which occurred in 1 of 298 patient treatments (0.3%), included diarrhea, dizziness, anorexia, fatigue, edema, skin rash, leg pain, inguinal adenopathy, medication taste and sore throat.

Long-Term Administration: The most frequent adverse reactions reported in studies of daily therapy for 3 to 6 months were headache in 33 of 251 patients (13.1%), diarrhea in 22 of 251 (8.8%), nausea and/or vomiting in 20 of 251 (8.0%), vertigo in 9 of 251 (3.6%), and arthralgia in 9 of 251 (3.6%). Less frequent adverse reactions, each of which occurred in less than 3% of the 251 patients (see number of patients in parentheses), included skin rash (7), insomnia (4), fatigue (7), fever (4), palpitations (1), sore throat (2), superficial thrombophlebitis (1), muscle cramps (2), pars planitis (1), menstrual abnormality (4), acne (3), lymphadenopathy (2), irritability (1), accelerated hair loss (1), and depression (1).

DOSAGE AND ADMINISTRATION: Treatment of initial genital herpes: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 10 days (total 50 capsules).

Chronic suppressive therapy for recurrent disease: One 200 mg capsule 3 times daily for up to 6 months. Some patients may require more drug, up to one 200 mg capsule 5 times daily for up to 6 months.

Intermittent Therapy: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 5 days (total 25 capsules). Therapy should be initiated at the earliest sign or symptom (prodrome) of recurrence.

Patients With Acute or Chronic Renal Impairment: One 200 mg capsule every 12 hours is recommended for patients with creatinine clearance ≤ 10 ml/min/1.73/m^2.

HOW SUPPLIED: Zovirax Capsules (blue, opaque) containing 200 mg acyclovir and printed with "Wellcome ZOVIRAX 200"- Bottles of 100 (NDC-0081-0991-55) and unit dose pack of 100 (NDC-0081-0991-56).

Store at 15°-30°C (59°-86°F) and protect from light.

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*In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.

Wellcome | Burroughs Wellcome Co.
Research Triangle Park
North Carolina 27709

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OFFICIAL CALL
HOUSE OF DELEGATES

HOUSE OF DELEGATES
Meetings Scheduled

Notice to: Delegates, Alternate Delegates, Officials of the North Carolina Medical Society, and Presidents and Secretaries of county medical societies.

Sessions of the HOUSE OF DELEGATES will convene in the Cardinal Ballroom, Pinehurst Hotel, Pinehurst, North Carolina, at the following times:

Thursday, April 30, 1987 — 9:30 a.m. — Opening Session
Saturday, May 2, 1987 — 2:00 p.m. — Second Session

A member of the CREDENTIALS COMMITTEE will be present at the Desk in the West Lobby, Wednesday, April 29, 1987, 3:00 p.m. to 5:00 p.m., and Thursday, April 30, 1987, 8:30 a.m. to 10:00 a.m. to certify Delegates. Delegates are urged to bring their Credential Cards for presentation at the Registration Desk. Delegate Badges must be worn to be seated in the HOUSE OF DELEGATES.

REFERENCE COMMITTEE HEARINGS

Reference Committee hearings are scheduled to begin Thursday, April 30, 1987, at 2:00 p.m.

JOHN W. FOUST, M.D., President
HENRY J. CARR, JR., M.D., President-Elect
T. REGINALD HARRIS, M.D., Speaker
JOHN A. FOGG, M.D., Vice-Speaker
JOHN T. DEES, M.D., Secretary
GEORGE E. MOORE, Executive Vice-President

Letters to the Editor

Congratulations

To the Editor:

As those who've known you as teacher, super-clinician and stimulator would have expected, you have changed the *North Carolina Medical Journal* from a boring, worthless, embarrassingly provincial, "throw-away" magazine into an interesting, highly readable and instructive publication. North Carolina doctors should be proud to see it in any library!

In reference to your Editor's note, page 565, December 1986 (Giannetto LA and Neelon FA, Getting Up Groggy), I was *mildly* disappointed that you didn't give poor old Elliott Cutler credit for finding and removing Eaton's tumor.

Parenthetically — in my second year of private practice before anyone sent me a stomach or rectum to do, I was referred a 50-year-old Wadesboro woman who had "crazy spells" and severe hypoglycemia. Even though I "cured" her, I never had another insulinoma in 35 subsequent years. Maybe Billy Peete did them all at Duke?

Congratulations and thanks for the new *North Carolina Medical Journal.*

Addison Brenizer, M.D.
Harvard Medical School 1940 &
Massachusetts General Hospital seq.
1333 Queens Rd.
Charlotte 28207

Responses to Dr. Crist's editorial

To the Editor:

It was with great regret that I read the recent *editorial* in the November issue of *North Carolina Medical Journal,* entitled "Sobering Thoughts" (Crist et al, 1986;47:511). I was indeed "sobered" to read such bigoted trash. What right does the North Carolina Medical Society have to single out any religion with this type of hate propaganda! As a Catholic physician, I am outraged. As a member of the North Carolina Medical Society, I am astonished. I demand an apology from the North Carolina Medical Society and its "official organ," the *North Carolina Medical Journal.*

John P. Stella, M.D.
1502 Darian Dr.
Elizabeth City 27909

To the Editor:

I was very surprised to see this very "left wing" editorial appearing in this journal. Does Dr. Crist make a living off of abortions? Does he make such humanitarian gestures to women who cannot pay? I frown at such material appearing in this journal. The article is obviously very opinionated and inflammatory. There are many things that appear in this editorial that I strongly disagree with and hope that other conservative physicians in North Carolina will respond. I am particularly opposed to abortions and feel the physician who makes his living off of abortions can only speak in favor of abortions. I do not see how he can be objective. I hope that you have editorials appearing with viewpoints differing from Dr. Crist and his colleagues. As a new member of the North Carolina Medical Association, I look forward to seeing further response.

Gregory L. Jones, M.D.
Saratoga Medical Clinic
Saratoga 27873

To the Editor:

Everyone has a right to an opinion, even Takey Crist and the Pope. What is fascinating to me is the language that we use in trying to persuade others toward our own opinion and dissuade them away from the opinion of others. I am, in this debate, particularly struck by the use of the code words: "reproductive health care policy" is the code word for abortion; "moral" is the code word for sexually continent.

It is most interesting to see my fellow humans claim either God or reason as the justification for our opinions. Having never been one to shy away from having an opinion of my own, I surely enjoy seeing my colleagues roar in print. We are all so often like the electricity in the incandescent light bulb: eighty percent heat and twenty percent light.

John R. Dykers, Jr., M.D.
P.O. Box 565
Siler City 27344

Dr. Foust's reply to Dr. Joyce

To Dr. Joyce:

I appreciate very much the copy of your letter to Dr. Eugene Stead (1986;48:45), Editor of the *North Carolina Medical Journal,* expressing your displeasure at the article that was listed as an editorial comment in the November 1986 *North Carolina Medical Journal* (Crist et al).

I trust you will get response from the Editorial Board of the *North Carolina Medical Journal* concerning your voiced disapproval and, hopefully, satisfaction can be obtained from that Board. I can assure you that this does not express the philosophy of the North Carolina Medical Society, as you are well aware.

John W. Foust, M.D.
President, North Carolina Medical Society

Bulletin Board

New Members

Alamance-Caswell
Robert Winfield Little (PD), 2505 S. Mebane St., Burlington 27215
Robert Ian McCaslin (PD), 530 W. Webb Ave., Burlington 27215

Burke
Ray Mills Antley, Sr. (R), 2201 S. Sterling St., Morganton 28655

Catawba
Brian David Steg (CD), 1985 Tate Boulevard, Hickory 28601

Craven-Pamlico-Jones
Lawrence English Gage (IM), Eastern Carolina IM, PA, P.O. Box 68, Pollocksville 28573
Michael Wayne Hahn (OBG), 801 McCarthy Blvd., New Bern 28560

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Jerry Ray Blair (STUDENT), 14 Gleewood Place, East, Durham 27713
Martyn John Cavallo (STUDENT), 130-N E. Longview RD. Chapel Hill 27514
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Peter Winston Gilmer, 2609 N. Duke St. Durham 27510
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Julia Anne Paranka (STUDENT), 3536 Mayfair St., #102, Durham 27707
Cemil Mehmet Purut (STUDENT), Box 2765, DUMC, Durham 27710
Todd Johnson Rustad (STUDENT), 1315 Morreene Rd., Apt, 271, Durham 27705
Catherine Courtney Slemp (STUDENT), 869 Louise Circle, Durham 27705
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Deanna Lynn Dorsey (STUDENT), 1314 Glade St., Apt. 37, Winston-Salem 27101
John W. Graves, 300 S. Hawthorne Rd., Winston-Salem 27103
Laurie Jill Harrold (STUDENT), 324 Crafton St., Winston-Salem 27103
Barry Leshin (D), 300 S. Hawthorne Rd., Dept. of Dermatology, Winston-Salem 27103
Ann Jones McCunniff (ON), 1025 Wessyngton Rd., Winston-Salem 27104
Melvin Kenneth Morgan (FP), 5029 Country Club Rd., Winston-Salem 27104
James Michael Orcutt (STUDENT), 1327 Revere Rd., Winston-Salem 27103
Michael Dominic Zanolli (D), 300. S. Hawthorne Rd., Winston-Salem 27103

Gaston
Gary Merlin Mason (OBG), Medical Park, 902 cox Rd., Ste. F, Gastonia 28054

Greensboro Society of Medicine
James Leon Edwards, Jr. (IM), 1100 Oliver St., Greensboro 27401
David Dwight Grove (IM), 1511 Westover Terrace, Greensboro 27408
Ralph LePore (GP), 4801 Forest Oaks Dr., Greensboro 27406
Shashi K. Sethi (OPH), 111 W. Wendover Ave., Greensboro 27401
Rebecca Russell Wheeler (IM), 1200 N. Elm St., Greensboro 27401

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Donald Lee McAlexander (IM), P.O. Box 217, Naples 28760
James Victor Volk (PD), 722 W. Fifth Ave., Hendersonville 28739
Paul Creasy Walker (FP), 510 Fleming St., Hendersonville 28739

Iredell
David Gene Kogut, 708 Hartness Road, Statesville 28677

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Lenoir-Greene
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Dennis Nelson Casey (R), Kinston Clinic, North, Kinston 28501

Mecklenburg
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New Hanover-Pender

John William Anagnost (IM), 1515 Doctors Circle, Wilmington 28401

Bernard Joseph Gottschalk (HEM), 1202 Medical Center Dr., Wilmington 28401

Gregory Grayson Hall (AN), 2144 Echo Lane, Wilmington 28403

Joel Clarence Morgan (TS), 1414 Medical Center Dr., Wilmington 28401

Pitt

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Donald Denby Bode, Jr. (OPH), 2573 Stantonsburg Rd., Greenville 27834

Franklin Douglas Jones (NS), 125 Moye Blvd., Greenville 27834

Georgia Ann Kannon (STUDENT), 114-A Hunting Ridge Rd., Greenville 27834

Wake

Joseph Keith Keener (NEP), 101 Duryer Court, Cary 27511

Charles H. Nicholson (AN), P.O. Box 18139, Raleigh 27619

Wayne

Terry Lee Forrest (OPH), P.O. Box 10907, Goldsboro 27532

Continuing Medical Education

Please note: The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina (ECU) and UNC Schools of Medicine, Dorothea Dix, and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or cosponsored by these schools automatically qualify for AMA Category I credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been obtained, this also is indicated.

IN STATE

February 20

Pediatrics Day 1987
Place: Greenville
Fee: $55
Credit: 6 hours Category I AMA
Info: The Office of CME, ECU School of Medicine, Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

March 5-12

Review of Clinical Chemistry for Practicing Pathologists & Clinical Chemists
Place: Greenville
Fee: $315
Credit: 40 hours Category I AMA
Info: The Office of CME, ECU School of Medicine, Box 7224, Greenville 27835-7224. 919/758-5200, ext 28

March 11

Family Practice Update '87
Place: Greenville
Fee: $55
Credit: 7 hours Category I AMA
Info: The Office of CME, ECU School of Medicine, Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

March 21

Eighth Annual Pulmonary Disease Update
Place: Greenville
Fee: $55
Credit: 6.5 hours Category I AMA
Info: The Office of CME, ECU School of Medicine, Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

March 26-27

Growth Control and Cancer: Molecular Approaches and Clinical Implications
Place: Chapel Hill
Info: Dianne Shaw, Lineberger Cancer Research Center, School of Medicine, University of North Carolina, Chapel Hill 27514. 919/966-3036

April 3

Rehabilitation Medicine: Head Injuries
Place: Greenville
Credit: 7 hours Category I AMA
Info: Office of CME, ECU School of Medicine, P.O. Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

April 3-5

Sixth Annual Ultrasound Symposium
Place: Greensboro
Credit: 16 hours Category I AMA
Info: Sharon Hughes, President, NC Ultrasound Society. 919/748-4505

April 9

North Carolina Clinical Neuro-Ophthalmology Review
Place: Chapel Hill
Info: Baird S. Grimson, M.D., Dept of Ophthalmology, University of North Carolina, 617 Clinical Science Bldg. 229H, Chapel Hill 27514. 919/966-5296

April 10

Plasma Cell Myeloma and Related Diseases
Place: Durham
Credit: 6 hours Category I AMA
Fee: $75
Info: Myeloma Symposium, Box 3096 DUMC, Durham 27710

April 10-11

Advanced Cardiac Life Support Provider Course
Place: Asheville
Credit: 16 hours Category I AMA
Fee: $200
Info: Daniel L. Dolan, M.D., MAHEC, 501 Biltmore Ave., Asheville 28801-4686. 704/258-0881

April 11-22

Highway Safety Conference
Place: Boone
Fee: $25
Credit: 7 Hours Category I AMA
Info: W. Douglas Wooten, Head, Highway Safety Branch, Div. of Health Service, P.O. Box 2091, Raleigh 27602. 919/733-3222

April 22

Neonatal Emergencies: Recognition and Treatment
Place: Greenville
Credit: 6 hours Category I AMA
Fee: $55
Info: Office of CME, ECU School of Medicine, P.O. Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

April 25

Fifteenth Annual New Bern Symposium: The Care of the Elderly
Place: New Bern
Info: Wm. B. Hunt, Jr., M.D., Symposium Director, P.O. Box 2157, New Bern 28560. 919/633-8608

May 13

Common Diagnostic Problems in Surgical Pathology: A Practical Approach
Place: Greenville
Fee: $55
Credit: 7 hours Category I AMA
Info: The Office of CME, ECU School of Medicine, P.O. Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

June 15-17

Surgery for Coronary Artery Disease
Place: Durham
Fee: $460 ACC members; $525 others
Credit: 17 hours Category I ACCME
Info: Registration Secretary, Extramural Programs Dept, American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 800/253-4636; in MD or AK 301/897-5400

Nursing

Except where otherwise noted, contact Nettie Wilburn, CPS, Office of Continuing Education, University of North Carolina, Chapel Hill 27514. 919/966-3638.

February 12-13

Communication Skills for the Nurse Manager
Place: Chapel Hill
Credit: 1.32 CEUs
Fee: $150

February 19-20

Human Response to AIDS — Coping and Caring
Place: Chapel Hill
Credit: 1.32 CEUs
Fee: $70

February 20-21

Writing and Publishing
Place: Chapel Hill
Credit: 2.04 CEUs
Fee: $180

May 13-14

The Systematic Process of Instructional Development
Place: Chapel Hill
Credit: 13.2 CEUs pending
Fee: $110

June 1-9

Summer Institute. Gerontology for Nurse Educators
Place: Chapel Hill
Credit: 3 CEUs
Fee: $3

OUT OF STATE

February 20-21

Flexible Fiberoptic Sigmoidoscopy
Place: Augusta, GA
Info: Division of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

February 21-28

Duke at Vail: Symposium on Inflammatory Diseases
Place: Vail, CO
Credit: 20 hours Category I AMA
Fee: $350; $250 Residents and Interns
Info: Angelika Langen, Box 3135 DUMC, Durham 27710. 919/684-2504

February 22-25

Rheumatology at Snowshoe
Place: Snowshoe, WV
Credit: 15 hours Category I AMA
Fee: $225
Info: Office of CME, West Virginia University School of Medicine, G-104 Basic Sciences Bldg., Morgantown, WV 26506. 304/293-3937

February 22-27

Diagnostic Imaging: Update 1987
Place: Park City, UT
Credit: 24.5 hours Category I AMA
Fee: $495
Info: 415/476-5808

February 23-28

6th Annual West Coast Symposium in Doppler Ultrasound
Place: Newport Beach, CA
Credit: 30 hours Category I AMA
Info: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Dr., Ste 215, Laguna Niguel, CA 92677. 714/495-4499

February 23-28

Symposium in Doppler & 2-D Echocardiography
Place: San Antonio, TX
Fee: $895
Credit: 40 hours Category I AMA
Info: Lisa Krehbiel, 30131 Town Center Dr. #215, Laguna Niguel, CA 92677. 714/495-4499

February 25-28

The Nineteenth Teaching Conference in Clinical Cardiology
Place: Bal Harbour, FL
Fee: $400; $375 Fellows & members AHA Council on Clinical Cardiology; $250 physicians in training
Credit: 28 hours Category I AMA; AAFP
Info: Michael S. Gordon, M.D., Ph.D., University of Miami School of Medicine (D-41), P.O. Box 016960, Miami, FL 33101. 305/547-6491

February 26-28

Cardiovascular Surgery
Place: Bethesda, MD
Credit: 18 hours Category I AMA
Fee: $415 ACC members, $465 non-members
Info: Program Registrar, Heart House Learning Center, American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814, 301/897-5400, ext 241, or 800/253-INFO

February 27-28

Advance Trauma Life Support
Place: Mountain Home, TN
Info: Ramona Miller, Ph.D., Office of CME, Quillen-Dishner College of Medicine, Johnson City, TN 37614. 615/929-6204

March 1-7

Update '87: Office Obstetrics and Gynecology
Place: Park City, UT
Info: Charlene E. Lee, Scott & White Memorial Hospital, 2401 South 31st St., Temple, TX 76508. 817/774-4073

March 2-7 (and April 27-May 2)

22nd Annual Family Practice Symposium
Place: Augusta, GA
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

March 4-8

Pan American Allergy Society Annual Training Course & Seminar
Place: San Antonio, TX
Fee: $415 members
Info: Betty Kahler, PAAS, 229 Parking Way, Lake Jackson, TX 77566. 409/297-8964 or 297-4069

March 6-7

Cardiology Department Management Conference
Place: New Orleans, LA
Credit: 10 hours Category I AMA
Fee: $350 approx.
Info: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Dr. Ste. 215, Laguna Niguel, CA 92677. 714/495-4499

March 7-8

Breast Imaging Update
Place: San Francisco, CA
Credit: 13 hours Category I AMA
Fee: $295
Info: 415/476-5808

March 8-13

Annual Meeting, US-Canadian Division of the International Academy of Pathology
Place: Chicago, IL
Info: Nathan Kuafman, M.D., Secretary-Treasurer, US-Canadian Division, International Academy of Pathology, Bldg. C, Ste. B, 3515 Wheeler Rd., Augusta, GA 30909. 404/733-7550

March 9-13

Hawaii '87: Critical Issues in Primary Care
Place: Kauai, HA
Credit: 20 hours Category I AMA, AAFP
Info: The Pacific Institute of CME, P.O. Box 1059, Koloa, Kauai, HA 96756. 808/742-7471

March 9-13

Diagnostic Radiology
Place: San Francisco, CA
Credit: 34 hours Category I AMA
Fee: $495
Info: 415/476-5808

March 14-15

Contemporary Trends in Diagnostic Nuclear Medicine
Place: San Francisco, CA
Fee: $352
Info: 415/476-5808

March 16-20

Diagnostic Imaging 1987
Place: Kauai, HI
Credit: 24 hours Category 1 AMA
Fee: $495
Info: 415/476-5808

March 19-20

Hospital Infections in 1987 and Beyond: New Issues, Problems and Strategies
Place: Hilton Head Island, SC
Credit: 9 hours Category I AMA, CEUs
Info: Loraine E. Price, B.S.N., C.I.C., Div. of Infectious Diseases, UNC SChool of Medicine, 547 Clinical Sciences Bldg. 229H, Chapel Hill 27514. 919/966-3242

March 29-April 1

Cardiology Update
Place: Phoenix, AZ
Credit: 26 hours Category I AMA
Fee: $395 approx.
Info: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Dr. Ste 215, Laguna Niguel, CA 92677. 714/495-4499

April 2

School Health
Place: Johnson City, TN
Info: Ramona Miller, Ph.D., Program Coordinator, Office of CME, Quillen-Dishner College of Medicine. Johnson City, TN 37614. 615/929-6204

April 3-5

Ophthalmologic Plastic Surgery, Orbital Disease, and Neuro-Ophthalmology
Place: Williamsburg, VA
Fee: $315
Info: Kay Parrott, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 9-10

16th Annual School Health Education
Place: Johnson City, TN
Info: Ramona Miller, Ph.D., Program Coordinator, Office of CME, Quillen-Dishner College of Medicine, Johnson City, TN 37614. 615/929-6204

April 9-11

Thoracic Imaging Update
Place: Monterey, CA
Credit: 13 hours Category I AMA
Fee: $295
Info: 415/476-5808

April 9-11

Current Concepts in Vascular Surgery
Place: Philadelphia, PA
Info: Fay Zelle, Hahnemann University, Broad and Vine Streets, M.X. 623, Philadelphia, PA 19102. 215/448-8263

April 10-12

OB/GYN and Abdominal Sonography: Update '87
Place: San Francisco, CA
Credit: 14.5 hours Category I AMA
Fee: $325
Info: 415/476-5808

April 10-12

5th Annual MCV Symposium: New Trends in Anesthesia
Place: Williamsburg, VA
Fee: $275
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 10-12

22nd Annual Pediatric Springfest
Place: Williamsburg, VA
Fee: $250
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 23-25

Cardiology
Place: Johnson City, TN
Info: Ramona Miller, Ph.D., Program Coordinator, Office of CME, Quillen-Dishner College of Medicine, Johnson City, TN 37614. 615/929-6204

April 23-25

23rd Annual Postgraduate Course in Radiology: The Chest
Place: Richmond, VA
Fee: $325
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 24-25

The Terminally Ill Patient: Psychological, Social, Legal, and Ethical Issues
Place: Boston, MA
Info: Harvard Medical School, Dept. of CME, Boston, MA 02115. 617/732-1525

April 24-26

9th Annual Conference on Emergency Medicine for the Primary Care Physician
Place: Williamsburg, VA
Fee: $295
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 24-26

7th Annual Clinical Concerns in Primary Care: Office Cardiology
Place: Williamsburg, VA
Fee: $295
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 27-May 2 (and March 2-7)

22nd Annual Family Practice Symposium
Place: Augusta, GA
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

May 2-9

Doppler and 2-D Echocardiology
Place: Newport Beach, CA
Fee: $895 approx.
Credit: 40 hours Category I AMA
Info: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Dr., Ste. 215, Laguna Niguel, CA 92677. 714/495-4499

May 8-10

6th Annual MCV Cardiology Conference
Place: Williamsburg, VA
Fee: $325
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

May 14-16

Vascular Surgery 1987: Third International Vascular Symposium
Place: New York, NY
Fee: $400
Credit: 24 hours Category I AMA
Info: Ann J. Boehme, Assoc. Director for CME, Long Island Jewish Medical Center, New Hyde Park, NY 11042. 718/470-8650

May 18-19

14th Annual Hans Berger Day and EEG Symposium
Place: Richmond, VA
Fee: $250
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

May 19-22

Cell Calcium Metabolism '87: Physiology, Biochemistry, Pharmacology, and Clinical Implications
Place: Washington, D.C.
Info: Dr. Gary Fiskum, Dept. of Biochemistry, The George Washington University of Medicine and Health Sciences, 2300 Eye St. NW, Washington, D.C. 20037.

May 23-25

Gynecologic Urology and Pelvic Surgery
Place: Williamsburg, VA
Fee: $260
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

May 26-30

Fifth Annual Cardiology Update
Place: Honolulu, HA
Fee: $395
Info: Lisa Krehbiel, 30131 Town Center Dr., Ste. 215, Laguna Niguel, CA 92677. 714/495-4499

May 30

Tough Psychiatry Problems in Medical Practice
Place: Gatlinburg, TN
Info: Ramona Miller, Ph.D., Program Coordinator, Office of CME, Quillen-Dishner College of Medicine, Johnson City, TN 37614. 615/929-6204

June 3-7

Eleventh Annual Postgraduate Course on Rehabilitation of the Brain-Injured Adult and Child
Place: Williamsburg, VA
Fee: $285
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Station, Richmond, VA 23298-0001. 804/786-0494

June 11-13

Current Advances in Pediatric Practice
Place: Gatlinburg, TN
Credit: 12 hours Category I/PREP, AAP, AAFP
Info: Dr. Sandra Loucks, University of Tennessee Memorial Research Center and Hospital, Dept. of Pediatrics, 1924 Alcoa Highway, Knoxville, TN 37920. 615/544-9331

June 15-18

18th Annual Internal Medicine Symposium
Place: Kiawah Island, SC
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

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efore prescribing, see complete prescribing information in SK&F CO. terature or *PDR*. The following is a brief summary.

WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

ontraindications: Concomitant use with other potassium-sparing agents uch as spironolactone or amiloride. Further use in anuria, progressive enal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum otassium. Hypersensitivity to either component or other sulfonamide-erived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, nless hypokalemia develops or dietary intake of potassium is markedly mpaired. If supplementary potassium is needed, potassium tablets hould not be used. Hyperkalemia can occur, and has been associated vith cardiac irregularities. It is more likely in the severely ill, with urine olume less than one liter/day, the elderly and diabetics with suspected r confirmed renal insufficiency. Periodically, serum K^+ levels should be letermined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires rompt additional therapy.** Thiazides cross the placental barrier and ppear in cord blood. Use in pregnancy requires weighing anticipated enefits against possible hazards, including fetal or neonatal jaundice, hrombocytopenia, other adverse reactions seen in adults. Thiazides ppear and triamterene may appear in breast milk. If their use is essential, he patient should stop nursing. Adequate information on use in children s not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or ctivation of systemic lupus erythematosus has been reported with hiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of triamterene nd hydrochlorothiazide may show an increase in blood pressure or fluid etention. Similarly, it is also possible that the lesser hydrochlorothiazide ioavailability could lead to increased serum potassium levels. However, xtensive clinical experience with 'Dyazide' suggests that these conditions ave not been commonly observed in clinical practice. Angiotensin-onverting enzyme (ACE) inhibitors can elevate serum potassium; use vith caution with 'Dyazide'. Do periodic serum electrolyte determinations particularly important in patients vomiting excessively or receiving arenteral fluids, and during concurrent use with amphotericin B or orticosteroids or corticotropin [ACTH]). Periodic BUN and serum reatinine determinations should be made, especially in the elderly, iabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal unction. Thiazides should be used with caution in patients with impaired epatic function. They can precipitate coma in patients with severe liver isease. Observe regularly for possible blood dyscrasias, liver damage, ther idiosyncratic reactions. Blood dyscrasias have been reported in atients receiving triamterene, and leukopenia, thrombocytopenia, granulocytosis, and aplastic and hemolytic anemia have been reported vith thiazides. Thiazides may cause manifestation of latent diabetes ellitus. The effects of oral anticoagulants may be decreased when sed concurrently with hydrochlorothiazide; dosage adjustments may be ecessary. Clinically insignificant reductions in arterial responsiveness o norepinephrine have been reported. Thiazides have also been shown to ncrease the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic lood studies in cirrhotics with splenomegaly. Antihypertensive effects ay be enhanced in post-sympathectomy patients. Use cautiously in urgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' hould be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients n 'Dyazide' when treated with indomethacin. Therefore, caution is dvised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine r both, hyperglycemia and glycosuria (diabetic insulin requirements may e altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' nterferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures hould be taken such as potassium supplementation or increased dietary ntake of potassium-rich foods. Corrective measures should be instituted autiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated erum potassium. Chloride deficit may occur as well as dilutional yponatremia. Concurrent use with chlorpropamide may increase the risk f severe hyponatremia. Serum PBI levels may decrease without signs f thyroid disturbance. Calcium excretion is decreased by thiazides. Dyazide' should be withdrawn before conducting tests for parathyroid unction. Thiazides may add to or potentiate the action of other antiypertensive drugs. Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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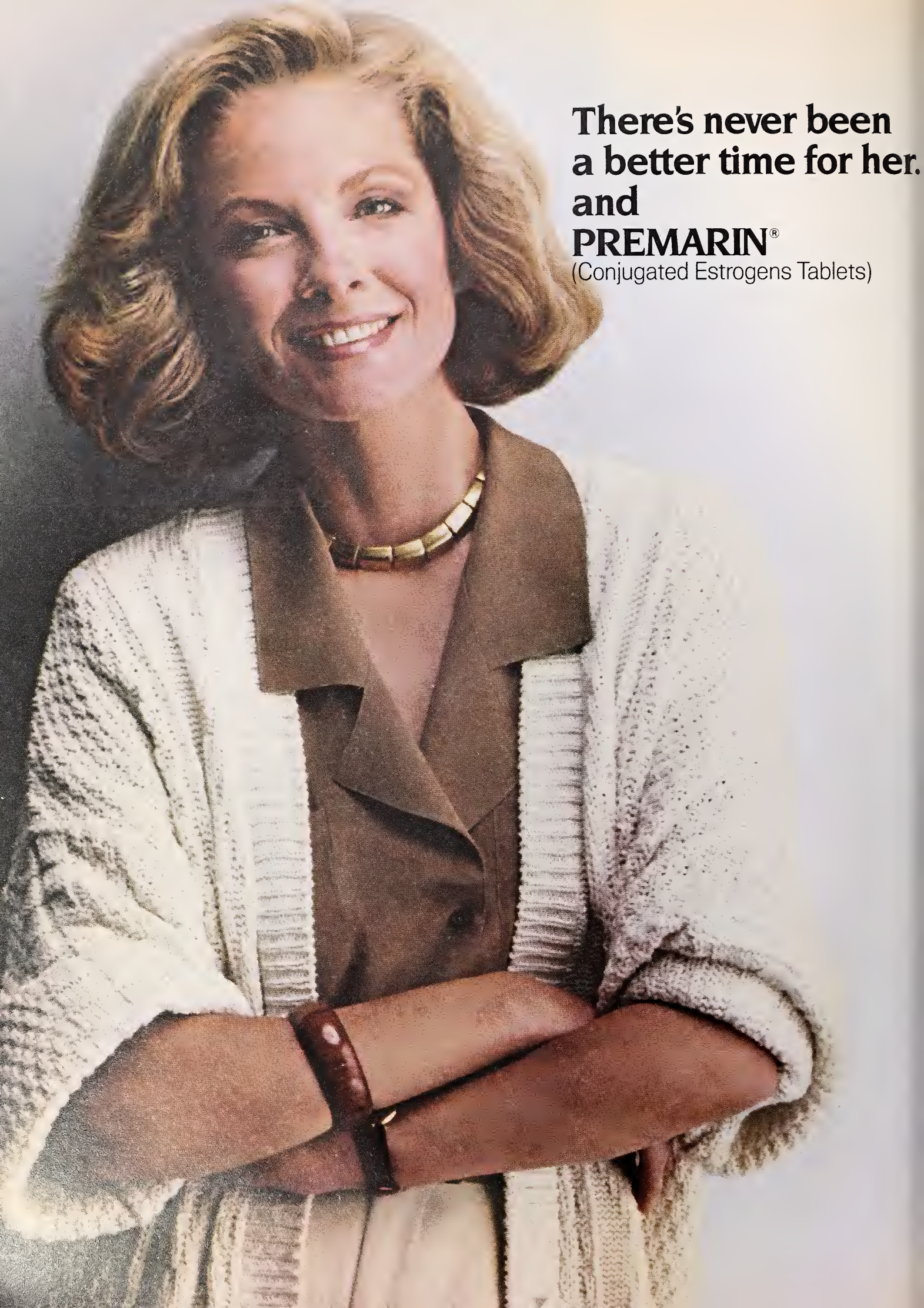


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Now the evidence looks better than ever

Significantly reduced risk of endometrial hyperplasia

Endometrial hyperplasia was significantly reduced when progestin was added to PREMARIN therapy for more than ten days a month.[1-4] The risk of endometrial hyperplasia may also be reduced through cyclic administration of unopposed, low-dose PREMARIN.

Effect on lipids—an important feature

PREMARIN used alone does not adversely affect lipid levels. In fact, a clinical study has shown a significant increase in HDL cholesterol—from 49.7 mg/dL to 56.4 mg/dL—and decrease in LDL cholesterol—from 165.1 mg/dL to 138.1 mg/dL—after one year of therapy with PREMARIN, 0.625 mg.[5]

Low-dose control of menopausal symptoms*

PREMARIN effectively relieves vasomotor symptoms, such as hot flashes. When estrogen deficiency is limited to atrophic vaginitis, PREMARIN® (conjugated estrogens) Vaginal Cream restores the vaginal environment to its premenopausal state.

The most widely used, most extensively studied estrogen worldwide.

PREMARIN®
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Most trusted for more reasons

*PREMARIN is indicated for moderate-to-severe vasomotor symptoms.

Please see following page for brief summary of prescribing information.

For moderate-to-severe vasomotor symptoms

PREMARIN®
(Conjugated Estrogens Tablets)



0.3 mg 0.625 mg 0.9 mg 1.25 mg 2.5 mg

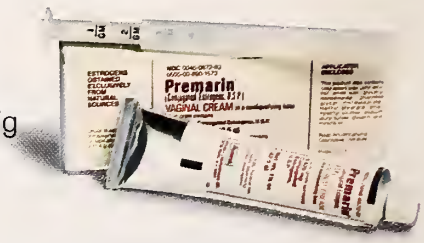
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For atrophic vaginitis

PREMARIN®
(Conjugated Estrogens)

Vaginal Cream

0.625mg/g



BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION AND PATIENT INFORMATION, SEE PACKAGE CIRCULARS.)*

PREMARIN® Brand of conjugated estrogens tablets, USP
PREMARIN® Brand of conjugated estrogens Vaginal Cream in a nonliquefying base

1. ESTROGENS HAVE BEEN REPORTED TO INCREASE THE RISK OF ENDOMETRIAL CARCINDMA.

Three independent case control studies have reported an increased risk of endometrial cancer in postmenopausal women exposed to exogenous estrogens for more than one year. This risk was independent of the other known risk factors for endometrial cancer. These studies are further supported by the finding that incidence rates of endometrial cancer have increased sharply since 1969 in eight different areas of the United States with population-based cancer reporting systems, an increase which may be related to the rapidly expanding use of estrogens during the last decade. The three case control studies reported that the risk of endometrial cancer in estrogen users was about 4.5 to 13.9 times greater than in nonusers. The risk appears to depend on both duration of treatment and on estrogen dose. In view of these findings, when estrogens are used for the treatment of menopausal symptoms, the lowest dose that will control symptoms should be utilized and medication should be discontinued as soon as possible. When prolonged treatment is medically indicated, the patient should be reassessed on at least a semiannual basis to determine the need for continued therapy. Although the evidence must be considered preliminary, one study suggests that cyclic administration of low doses of estrogen may carry less risk than continuous administration; it therefore appears prudent to utilize such a regimen. Close clinical surveillance of all women taking estrogens is important. In all cases of undiagnosed persistent or recurring abnormal vaginal bleeding, adequate diagnostic measures should be undertaken to rule out malignancy. There is no evidence at present that "natural" estrogens are more or less hazardous than "synthetic" estrogens at equiestrogenic doses.
2. ESTROGENS SHOULD NOT BE USED DURING PREGNANCY.
The use of female sex hormones, both estrogens and progestogens, during early pregnancy may seriously damage the offspring. It has been shown that females exposed in utero to diethylstilbestrol, a non-steroidal estrogen, have an increased risk of developing in later life a form of vaginal or cervical cancer that is ordinarily extremely rare. This risk has been estimated as not greater than 4 per 1,000 exposures. Furthermore, a high percentage of such exposed women (from 30% to 90%) have been found to have vaginal adenosis, epithelial changes of the vagina and cervix. Although these changes are histologically benign, it is not known whether they are precursors of malignancy. Although similar data are not available with the use of other estrogens, it cannot be presumed they would not induce similar changes. Several reports suggest an association between intrauterine exposure to female sex hormones and congenital anomalies, including congenital heart defects and limb reduction defects. One case control study estimated a 4.7-fold increased risk of limb reduction defects in infants exposed in utero to sex hormones (oral contraceptives, hormone withdrawal tests for pregnancy, or attempted treatment for threatened abortion). Some of these exposures were very short and involved only a few days of treatment. The data suggest that the risk of limb reduction defects in exposed fetuses is somewhat less than 1 per 1,000. In the past, female sex hormones have been used during pregnancy in an attempt to treat threatened or habitual abortion. There is considerable evidence that estrogens are ineffective for these indications, and there is no evidence from well controlled studies that progestogens are effective for these uses. If PREMARIN is used during pregnancy, or if the patient becomes pregnant while taking this drug, she should be apprised of the potential risks to the fetus, and the advisability of pregnancy continuation.

DESCRIPTION: PREMARIN (conjugated estrogens, USP) contains a mixture of estrogens, obtained exclusively from natural sources, blended to represent the average composition of material derived from pregnant mares' urine. It contains estrone, equilin, and 17α-dihydroequilin, together with smaller amounts of 17α-estradiol, equilenin, and 17α-dihydroequilenin as salts of their sulfate esters. Tablets are available in 0.3 mg, 0.625 mg, 0.9 mg, 1.25 mg, and 2.5 mg strengths of conjugated estrogens. Cream is available as 0.625 mg conjugated estrogens per gram.

INDICATIONS AND USAGE: PREMARIN (conjugated estrogens tablets, USP): Moderate-to-severe *vasomotor* symptoms associated with the menopause. (There is no evidence that estrogens are effective for nervous symptoms or depression without associated vasomotor symptoms and they should not be used to treat such conditions.) **Osteoporosis (abnormally low bone mass).** Atrophic vaginitis. Kraurosis vulvae. Female castration.

PREMARIN (conjugated estrogens) Vaginal Cream is indicated in the treatment of atrophic vaginitis and kraurosis vulvae. PREMARIN HAS NOT BEEN SHOWN TO BE EFFECTIVE FOR ANY PURPOSE DURING PREGNANCY AND ITS USE MAY CAUSE SEVERE HARM TO THE FETUS (SEE BOXED WARNING).

Concomitant Progestin Use: The lowest effective dose appropriate for the specific indication should be utilized. Studies of the addition of a progestin for 7 or more days of a cycle of estrogen administration have reported a lowered incidence of endometrial hyperplasia. Morphological and biochemical studies of the endometrium suggest that 10 to 13 days of progestin are needed to provide maximal maturation of the endometrium and to eliminate any hyperplastic changes. Whether this will provide protection from endometrial carcinoma has not been clearly established. There are possible additional risks which may be associated with the inclusion of progestin in estrogen replacement regimens. (See PRECAUTIONS.) The choice of progestin and dosage may be important; product labeling should be reviewed to minimize possible adverse effects.

CONTRAINDICATIONS: Estrogens should not be used in women (or men) with any of the following conditions: 1. Known or suspected cancer of the breast except in appropriately selected patients being treated for metastatic disease. 2. Known or suspected estrogen-dependent neoplasia 3. Known or suspected pregnancy (See Boxed Warning). 4. Undiagnosed abnormal genital bleeding. 5. Active thrombophlebitis or thromboembolic disorders 6. A past history of thrombophlebitis, thrombosis, or thromboembolic disorders associated with previous estrogen use (except when used in treatment of breast or prostatic malignancy).

WARNINGS: Long-term continuous administration of natural and synthetic estrogens in certain animal species increases the frequency of carcinomas of the breast, cervix, vagina, and liver. There are now reports that estrogens increase the risk of carcinoma of the endometrium in humans. (See Boxed Warning.) At the present time there is no satisfactory evidence that estrogens given to postmenopausal women increase the risk of cancer of the breast, although a recent study has raised this possibility. There is a need for caution in prescribing estrogens for women with a strong family history of breast cancer or who have breast nodules, fibrocystic disease, or abnormal mammograms. A recent study has reported a 2- to 3-fold increase in the risk of surgically confirmed gallbladder disease in women receiving postmenopausal estrogens.

Adverse effects of oral contraceptives may be expected at the larger doses of estrogen used to treat prostatic or breast cancer or postpartum breast engorgement; it has been shown that there is an increased risk of thrombosis in men receiving estrogens for prostatic cancer and women lor postpartum breast engorgement. Users of oral contraceptives have an increased risk of diseases, such as thrombophlebitis, pulmonary embolism, stroke, and myocardial infarction. Cases of retinal thrombosis, mesenteric thrombosis, and optic neuritis have been reported in oral contraceptive users. An increased risk of postsurgery thromboembolic complications has also been reported in users of oral contraceptives. If feasible, estrogen should be discontinued at least 4 weeks before surgery of the type associated with an increased risk of thromboembolism, or during periods of prolonged immobilization. Estrogens should not be used in persons with active thrombophlebitis, thromboembolic disorders, or in persons with a history of such disorders in association with estrogen use. They should be used with caution in patients with cerebral vascular or coronary artery disease. Large doses (5 mg conjugated estrogens per day), comparable to those used to treat cancer of the prostate and breast, have been shown to increase the risk of nonfatal myocardial infarction, pulmonary embolism and thrombophlebitis. When doses of this size are used, any of the thromboembolic and thrombotic adverse effects should be considered a clear risk.

Benign hepatic adenomas should be considered in estrogen users having abdominal pain and tenderness, abdominal mass, or hypovolemic shock. Hepatocellular carcinoma has been reported in women taking estrogen-containing oral contraceptives. Increased blood pressure may occur with use of estrogens in the menopause and blood pressure should be monitored with estrogen use. A worsening of glucose tolerance has been observed in patients on estrogen-containing oral contraceptives. For this reason, diabetic patients should be carefully observed. Estrogens may lead to severe hypercalcemia in patients with breast cancer and bone metastases.

PRECAUTIONS: Physical examination and a complete medical and family history should be taken prior to the initiation of any estrogen therapy with special reference to blood pressure, breasts, abdomen, and pelvic organs, and should include a Papanicolaou smear. As a general rule, estrogen should not be prescribed for longer than one year without another physical examination being performed. Conditions influenced by fluid retention such as asthma, epilepsy, migraine, and cardiac or renal dysfunction, require careful observation. Certain patients may develop manifestations of excessive estrogenic stimulation, such as abnormal or excessive uterine bleeding, mastodynia, etc. Prolonged administration of unopposed estrogen therapy has been reported to increase the risk of endometrial hyperplasia in some patients. Oral contraceptives appear to be associated with an increased incidence of mental depression. Patients with a history of depression should be carefully observed. Preexisting uterine leiomyomata may increase in size during estrogen use. The pathologist should be advised of estrogen therapy when relevant specimens are submitted. If jaundice develops in any patient receiving estrogen, the medication should be discontinued while the cause is investigated. Estrogens should be used with care in patients with impaired liver function, renal insufficiency, metabolic bone diseases associated with hypercalcemia, or in young patients in whom bone growth is not complete. If concomitant progestin therapy is used, potential risks may include adverse effects on carbohydrate and lipid metabolism.

The following changes may be expected with larger doses of estrogen:

a. Increased sulfobromophthalein retention.

b. Increased prothrombin and factors VII, VIII, IX, and X; decreased antithrombin 3; increased norepinephrine-induced platelet aggregability.

c. Increased thyroid binding globulin (TBG) leading to increased circulating total thyroid hormone, as measured by PBI, T4 by column, or T4 by radioimmunoassay. Free T3 resin uptake is decreased, reflecting the elevated TBG; free T4 concentration is unaltered.

d. Impaired glucose tolerance.

e. Decreased pregnanediol excretion.

f. Reduced response to metyrapone test.

g. Reduced serum folate concentration.

h. Increased serum triglyceride and phospholipid concentration. As a general principle, the administration of any drug to nursing mothers should be done only when clearly necessary since many drugs are excreted in human milk

ADVERSE REACTIONS: The following have been reported with estrogenic therapy, including oral contraceptives: breakthrough bleeding, spotting, change in menstrual flow; dysmenorrhea; premenstrual-like syndrome; amenorrhea during and after treatment; increase in size of uterine fibromyomata; vaginal candidiasis, change in cervical erosion and in degree of cervical secretion; cystitis-like syndrome; tenderness, enlargement, secretion (of breasts); nausea, vomiting, abdominal cramps, bloating; cholestatic jaundice; chloasma or melasma which may persist when drug is discontinued; erythema multiforme; erythema nodosum; hemorrhagic eruption; loss of scalp hair; hirsutism; steepening of corneal curvature; intolerance to contact lenses; headache, migraine, dizziness, mental depression, chorea; increase or decrease in weight; reduced carbohydrate tolerance; aggravation of porphyria; edema; changes in libido.

ACUTE OVERDOSAGE: May cause nausea, and withdrawal bleeding may occur in females.

DOSAGE AND ADMINISTRATION:

PREMARIN® Brand of conjugated estrogens tablets, USP

1. *Given cyclically for short-term use only.* For treatment of moderate to severe *vasomotor* symptoms, atrophic vaginitis, or kraurosis vulvae associated with the menopause (0.3 to 1.25 mg or more daily). The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible. Administration should be cyclic (eg, three weeks on and one week off). Attempts to discontinue or taper medication should be made at three- to six-month intervals.

2. *Given cyclically:* Female castration. Osteoporosis. Female castration—1.25 mg daily, cyclically. Adjust upward or downward according to response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control. Osteoporosis —0.625 mg daily. Administration should be cyclic (eg, three weeks on and one week off).

Patients with an intact uterus should be monitored for signs of endometrial cancer and appropriate measures taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

PREMARIN® Brand of conjugated estrogens Vaginal Cream

Given cyclically for short-term use only. For treatment of atrophic vaginitis or kraurosis vulvae.

The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible.

Administration should be cyclic (eg, three weeks on and one week off).

Attempts to discontinue or taper medication should be made at three-to-six month intervals.

Usual dosage range: 2 to 4 g daily, intravaginally, depending on the severity of the condition.

Treated patients with an intact uterus should be monitored closely for signs of endometrial cancer and appropriate diagnostic measures should be taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

Relerences:

1. Whitehead MI, Townsend PT, Pryse-Davies J, et al: Effects of estrogens and progestins on the biochemistry and morphology of the postmenopausal endometrium. *N Engl J Med* 1981;305:1599-1605 **2.** Paterson MEL, Wade-Evans T, Sturdee DW, et al: Endometrial disease after treatment with oestrogens and progestogens in the climacteric. *Br Med J* 1980;280:822-824. **3.** Magos AL, Brincat M, Studd JWW, et al: Amenorrhea and endometrial atrophy with continuous oral estrogen and progestogen therapy in postmenopausal women. *Obstet Gynecol* 1985; 67: 496-499. **4.** Whitehead MI, Lane G, Siddle N, et al: Avoidance of endometrial hyperstimulation in estrogen-treated postmenopausal women. *Semin Reprod Endocrinol* 1983;1:1;41-52. **5.** Barnes RB, Roy S, Lobo RA: Comparison of lipid and androgen levels after conjugated estrogen or depo-medroxyprogesterone acetate treatment in postmenopausal women. *Obstet Gynecol* 1985;66:216-219.

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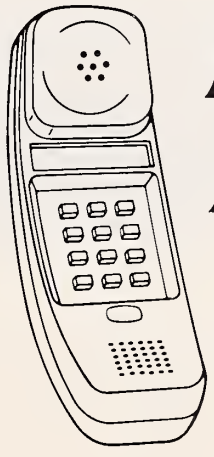
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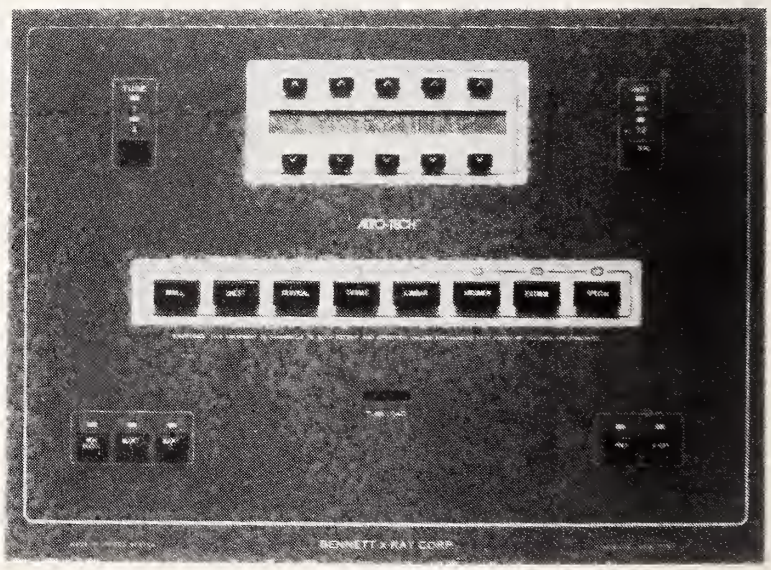
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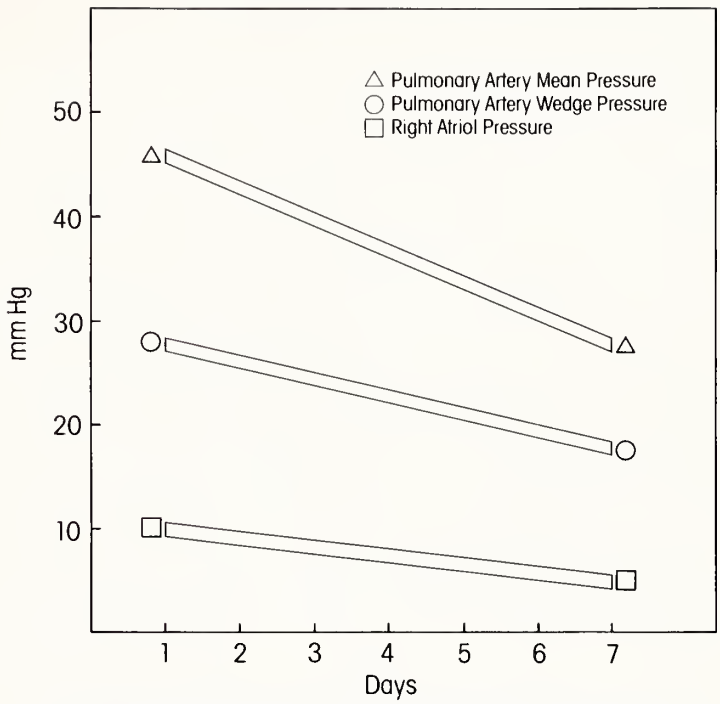
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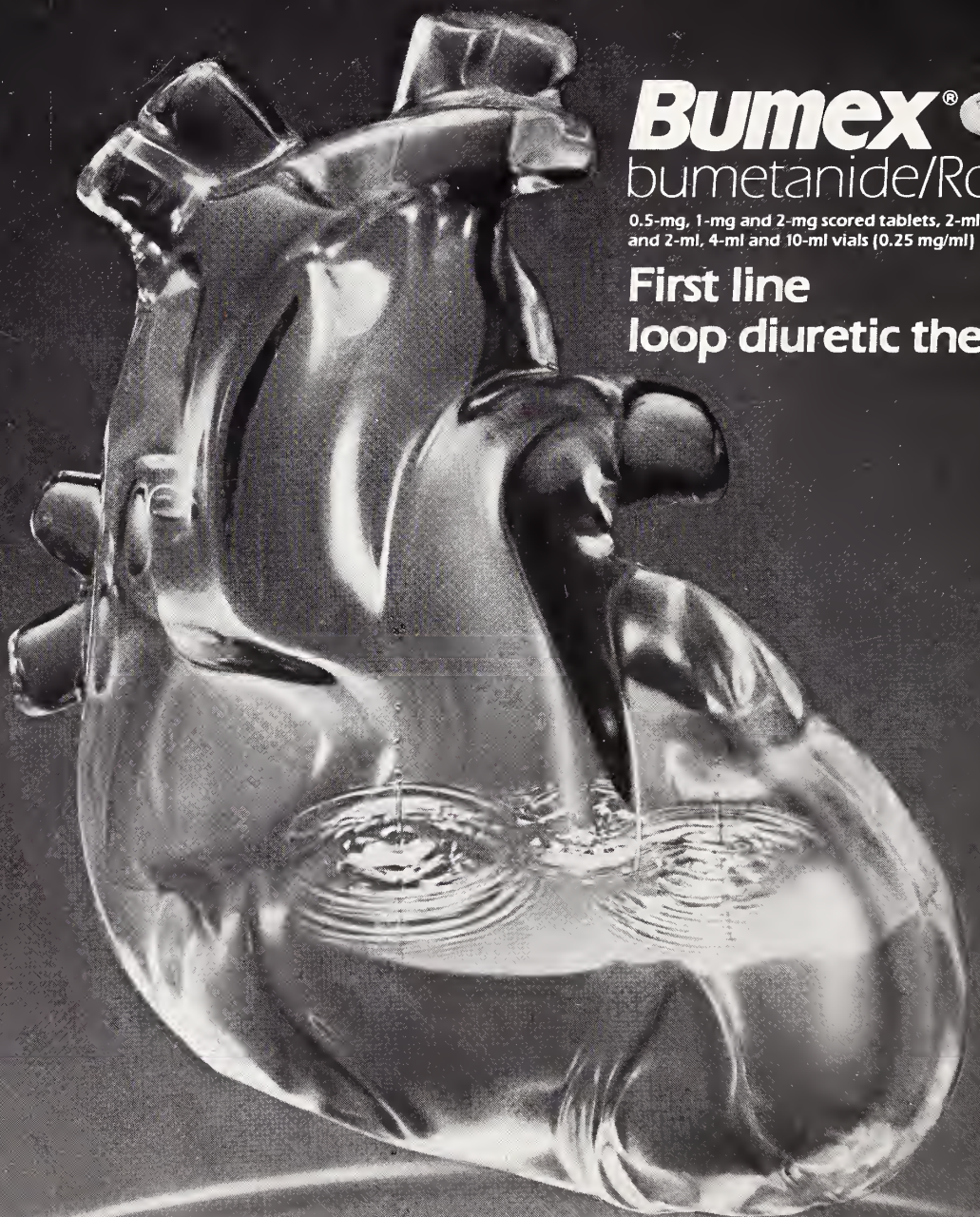
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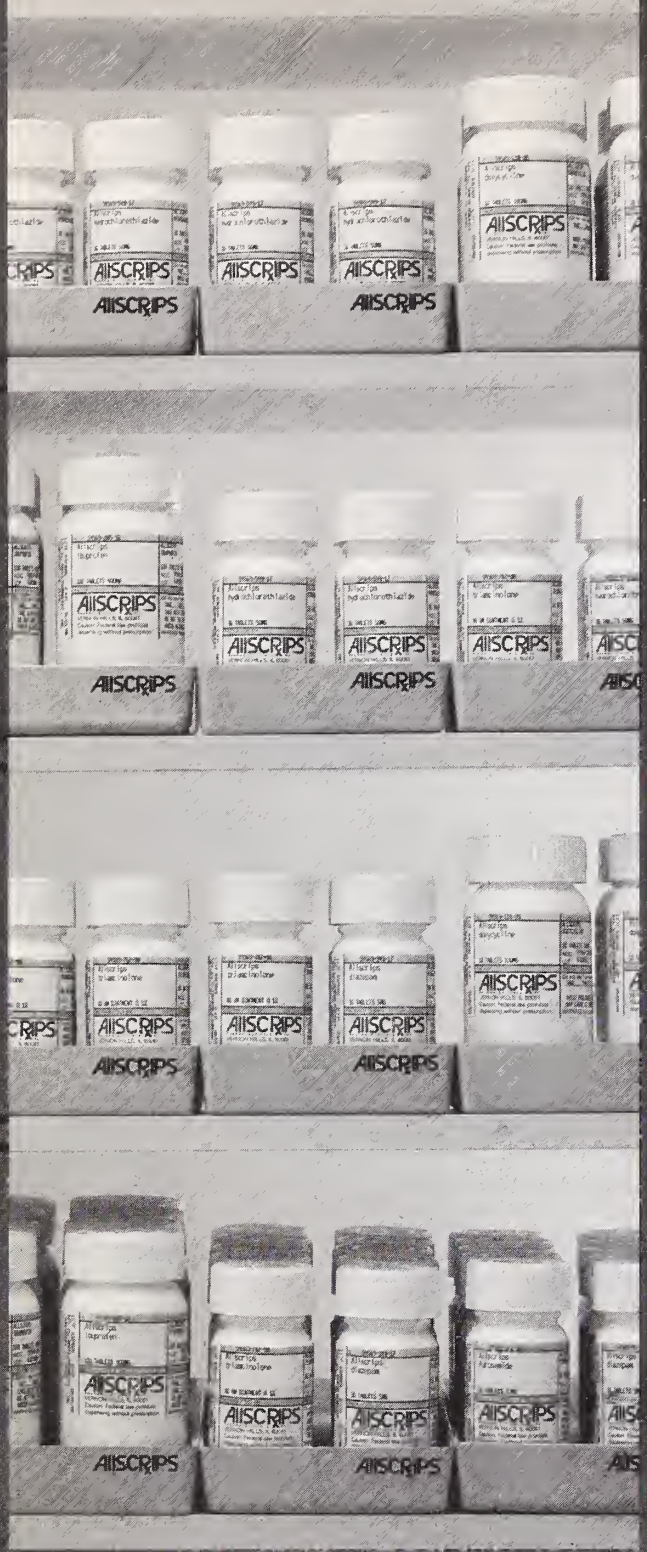
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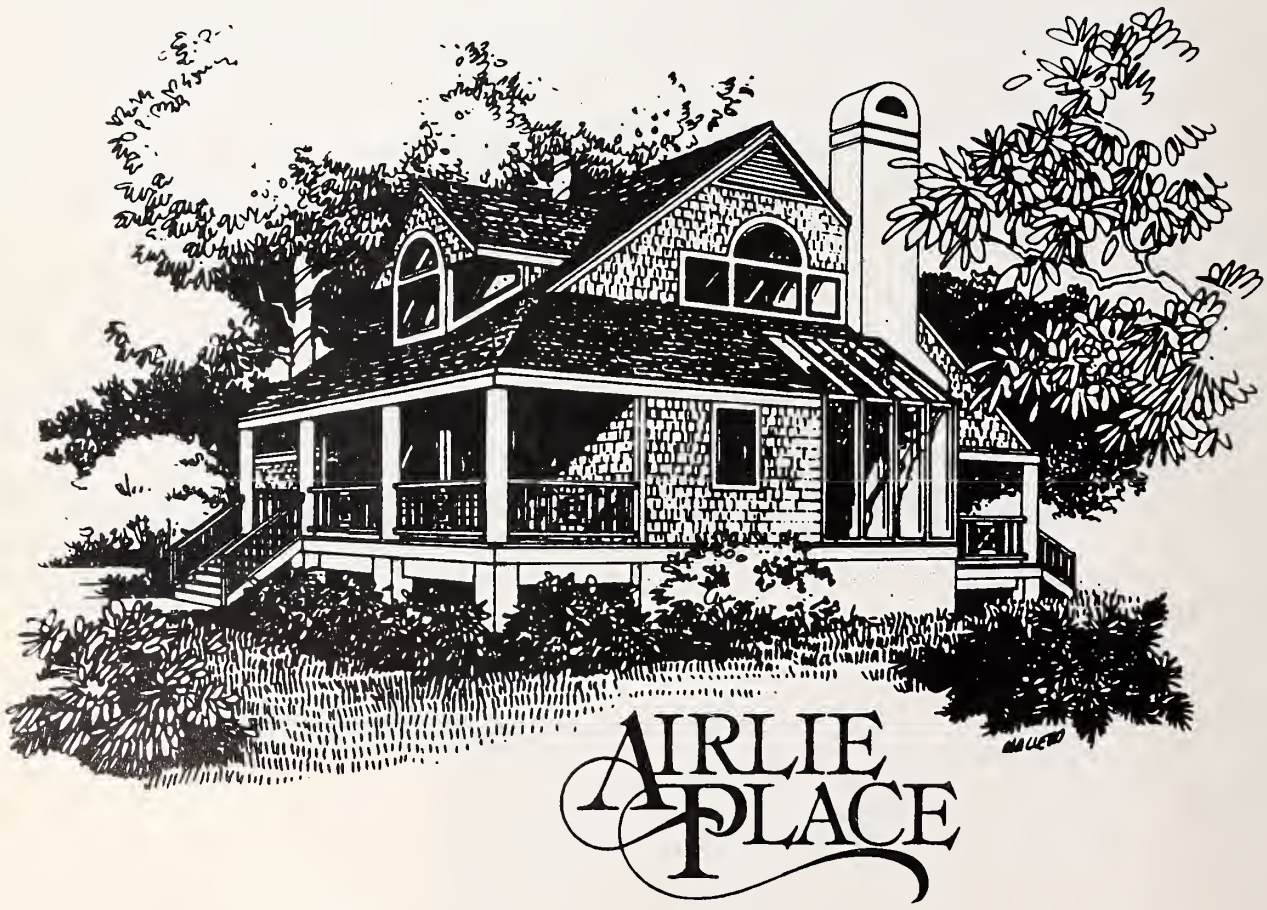
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EDITORIAL

Use of Automatic External Defibrillators — An Issue for North Carolina's EMS System

H. Lawson Huggins, Jr., M.D., and Roy W. Graves, M.D.

The use of automatic external defibrillators by emergency medical technicians would mean earlier defibrillation and lives saved.

Given that defibrillation is the definitive treatment of ventricular fibrillation, it is not surprising that the earliest possible defibrillation is associated with higher success rates of returning to a stable perfusing rhythm. This has been well documented.[1-6] Now, through the development of automatic external defibrillators (AEDs), the technology exists to allow Emergency Medical Technicians (EMTs) to provide safe earlier defibrillation.

The concept of EMT-defibrillation is endorsed by the American Heart Association, the American College of Emergency Physicians, the Advanced Coronary Treatment Foundation, and the 1985 National Conference on Standards and Guidelines for Cardiopulmonary Resuscitation.[2,6,7] Presently, a statewide EMS task force is investigating the feasibility of EMT-defibrillation programs. In addition to considering the programs themselves, the task force must decide among manual, semiautomatic, or fully automated defibrillators.

AED Equipment

There are several AEDs now available that are basically variations of the same theme. Most list for approximately $5000-6000, are portable, and weigh 25-30 lbs. They are powered by rechargeable lead-acid batteries and employ two self-adhesive pads, each with an ECG electrode that is placed over the apex of the heart and the right sternal border. The Heart-Aid 95 (Cardiac Resuscitator Corporation, Portland, OR) is a typical AED device with the added feature of external pacing for those cases where the patient is in asystole or severe bradycardia.

Through built-in digital software, AEDs analyze multiple parameters (amplitude, frequency, morphology, etc.) of the ECG signal with rhythm algorithms. Also incorporated is an impedance measurement between the two surface electrodes to ensure adequate contact and special filters to identify electrical artifacts.

Once cardiac arrest without pulse or respiration is identified, the two electrodes are placed on the patient's chest. With the Heart-Aid 97, the cardiac rhythm is assessed immediately, and the device can automatically deliver the first defibrillation in as little as 12 seconds if needed. Real-time display is provided by an ECG screen. The ECG strip chart recorder provides an on-site record of the patient's cardiac rhythm for permanent documentation.

Audible voice instructions guide the rescuer through the appropriate steps in treating the victim. Perhaps most important for medical control, the entire resuscitation is recorded on a dual channel recorder. All ECG information as well as voice and background sounds are recorded to provide a reconstruction of the procedure for subsequent medical review.

Clinical Experience with EMT Defibrillation

The effectiveness of early defibrillation in the field has been confirmed in several controlled studies.[8-10] Stults et al prospectively studied the survival following out-of-hospital cardiac arrests that had been served by two groups of basic ambulance personnel.[8] The first group was trained to recognize and defibrillate ventricular fibrillation. Twelve pa-

From the Department of Emergency Medicine, East Carolina University School of Medicine/Pitt County Memorial Hospital, Greenville 27834.

tients of 64 (19%) who were found in ventricular fibrillation were resuscitated and discharged alive from the hospital. The second group served as a control where early defibrillation was not attempted and only basic life support was employed. One of 31 of these patients was discharged alive from the hospital ($P < 0.05$).

Similarly, Eisenberg et al[3] found that patients discharged alive from the hospital represented 26% of 36 victims treated with early defibrillation by EMTs (who had had a ten-hour training course to recognize ventricular fibrillation and use a manual defibrillator), and just 7% of 56 control group victims treated with only basic life support by EMTs.

Automatic versus Manual Defibrillation

Clinical trials of the automatic versus manual defibrillator come most notably from Iowa and King County, Washington. Cummins et al[11] studied the performance of the EAD used by paramedics on 39 people with out-of-hospital cardiac arrests. The AED delivered at least one defibrillation to each of 13 out of 16 people in ventricular defibrillation (81% sensitivity). The AED demonstrated a 100% specificity, not delivering any defibrillations to any of the 21 non-ventricular fibrillation rhythms (13 asystole, 8 other electrical rhythms); in two patients the rhythms could not be assessed.

Similar results were achieved by Weaver et al,[12] who studied the use of the AED by first-responding fire fighters on 260 victims of cardiac arrest. Of the 118 patients with ventricular fibrillation, 91 were given appropriate defibrillations (77% sensitivity). The AED also correctly identified all remaining non-ventricular fibrillation rhythms and did not deliver any inappropriate countershocks (100% specificity). Additionally, there were no accidental shocks reported to the rescuers themselves.

Although the specificity for measurable rhythms has been consistent at 100%, the sensitivity of delivered defibrillations has remained approximately 80%. However, most of these data were developed with first-generation AEDs. The single most common problem with these detection algorithms has been distinguishing asystole from fine ventricular fibrillation. Newer algorithms show promise to increase sensitivity for fine ventricular fibrillation without a loss in specificity.

Realistically, however, asystole always has a poor prognosis, in spite of all advanced cardiac life support measures. Therefore, the question of whether the AED was defibrillating fine ventricular fibrillation versus asystole is perhaps moot; the former rarely responds to electrical therapy,[13] and the latter would not be adversely affected by defibrillation. In fact, a prospective study from UCLA found defibrillation of asystole more successful than standard drug therapy.[14]

Comments

Although early defibrillation by EMTs has been proven workable, and has been endorsed by several national organizations, it has yet to be implemented statewide and throughout the country. As public hearings of the state EMS task force continue, special emphasis should be given to the AED as a means of bringing an EMT-defibrillation program into reality.

The AEDs are less expensive than manual defibrillators. They eliminate the need for EMTs to be trained in interpretation of a dynamic rhythm strip for ventricular fibrillation before administering appropriate treatment; obviously, initial training and recertification at the EMT-defibrillation level would be simpler. Perhaps most important, there would be a more standardized level of care of the cardiac arrest victim throughout the state.

However, the idea of AEDs in an EMT-defibrillation program cannot come to fruition on its own merit. It will require the support of all emergency clinicians and academicians. It will require trained emergency physicians to provide medical control over basic EMTs, many of whom previously have operated without any medical supervision.

The AED offers a considerable potential for saving lives; let us not waste it. ■

Acknowledgment

The authors wish to thank E. Jackson Allison, Jr., M.D./M.P.H. for his assistance in the editing of this manuscript, and Rosie Walsh for her help in its preparation.

References

1 Eisenberg MS, Copass MK, Hallstrom AP, et al. Treatment of out-of-hospital cardiac arrest with rapid defibrillation by emergency medical technicians. N Engl J Med 1980;302:1379-83.

2 American College of Emergency Physicians Emergency Medical Services Committee. Prehospital defibrillation by basic-level emergency medical technicians. Ann Emerg Med 1984;13:974.

3 Eisenberg MS, Cummins RO, Hallstrom AP, et al. Defibrillation by emergency medical technicians. Critical Care Med 1985;13:921-2.

4 Cummins RO, Eisenberg MS, Bergner L, et al. Automatic external defibrillation: evaluations of its role in the home and in emergency medical services. Ann Emerg Med 1984;13:9.

5 Kerber RE. External defibrillation: new technologies. Ann Emerg Med 1984;13:9(part 2).

6 Cummins RO, Eisenberg MS, Stults KR. Automatic external defibrillators: clinical issues for cardiology. Circulation 1986;73:381-5.

7 EMT Defibrillation: ACT Foundation Issues Policy Statement. JEMS 1983;8:37.

8 Stults KR, Brown DD, Schug VL, et al. Prehospital defibrillation performed by emergency medical technicians in rural communities. N Engl J Med 1984;310:219-23.
9 Weaver WD, Copass MK, Bufi D, et al. Improved neurologic recovery and survival after early defibrillation. Circulation 1984;69:943-8.
10 Eisenberg MS, Copass MK, Short F, et al. Treatment of ventricular fibrillation: emergency medical technicians and paramedic services. JAMA 1984;251:1723-6.
11 Cummins RO, Eisenberg M, Bergner L, et al. Sensitivity, accuracy, and safety of an automatic external defibrillator. Lancet 1984;2:318-20.
12 Weaver WD, Copass MK, Hill DL, et al. Cardiac arrest treated with a new automatic external defibrillator by out-of-hospital first responders. Am J Cardiol 1986;57:1017-21.
13 Weaver WD, Cobb LA, Dennis D, et al. Amplitude of ventricular fibrillation waveform and outcome after cardiac arrest. Ann Intern Med 1985;102:53.
14 Ornato JP, Gonzales ER, Morkunas AR, et al. Treatment of presumed asystole during prehospital cardiac arrest. Am J Emerg Med 1985;3:395-9.

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Please see next page for brief summary of prescribing information.

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BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR.)*

INDERAL® LA brand of propranolol hydrochloride **(Long Acting Capsules)**

DESCRIPTION. Inderal LA is formulated to provide a sustained release of propranolol hydrochloride. Inderal LA is available as 80 mg, 120 mg, and 160 mg capsules.

CLINICAL PHARMACOLOGY. INDERAL is a nonselective beta-adrenergic receptor blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta-adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg for mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

The mechanism of the antihypertensive effect of INDERAL has not been established. Among the factors that may be involved in contributing to the antihypertensive action are (1) decreased cardiac output, (2) inhibition of renin release by the kidneys, and (3) diminution of tonic sympathetic nerve outflow from vasomotor centers in the brain. Although total peripheral resistance may increase initially, it readjusts to or below the pretreatment level with chronic use. Effects on plasma volume appear to be minor and somewhat variable. INDERAL has been shown to cause a small increase in serum potassium concentration when used in the treatment of hypertensive patients.

In angina pectoris, propranolol generally reduces the oxygen requirement of the heart at any given level of effort by blocking the catecholamine-induced increases in the heart rate, systolic blood pressure, and the velocity and extent of myocardial contraction. Propranolol may increase oxygen requirements by increasing left ventricular fiber length, end diastolic pressure and systolic ejection period. The net physiologic effect of beta-adrenergic blockade is usually advantageous and is manifested during exercise by delayed onset of pain and increased work capacity.

In dosages greater than required for beta blockade, INDERAL also exerts a quinidine-like or anesthetic-like membrane action which affects the cardiac action potential. The significance of the membrane action in the treatment of arrhythmias is uncertain.

The mechanism of the antimigraine effect of propranolol has not been established. Beta-adrenergic receptors have been demonstrated in the pial vessels of the brain.

Beta receptor blockade can be useful in conditions in which, because of pathologic or functional changes, sympathetic activity is detrimental to the patient. But there are also situations in which sympathetic stimulation is vital. For example, in patients with severely damaged hearts, adequate ventricular function is maintained by virtue of sympathetic drive which should be preserved. In the presence of AV block, greater than first degree, beta blockade may prevent the necessary facilitating effect of sympathetic activity on conduction. Beta blockade results in bronchial constriction by interfering with adrenergic bronchodilator activity which should be preserved in patients subject to bronchospasm.

Propranolol is not significantly dialyzable.

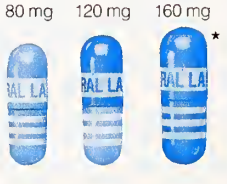
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80 mg 120 mg 160 mg



INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension; it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock; 2) sinus bradycardia and greater than first degree block; 3) bronchial asthma; 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

WARNINGS. CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, e.g., dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case, this resulted after an initial dose of 5 mg propranolol.

PRECAUTIONS. *General:* Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

Clinical Laboratory Tests. Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS. Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

Pregnancy: Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers: INDERAL is excreted in human milk. Caution should be exercised when INDERAL is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: bradycardia; congestive heart failure; intensification of AV block; hypotension; paresthesia of hands; thrombocytopenic purpura; arterial insufficiency, usually of the Raynaud type.

Central Nervous System: lightheadedness; mental depression manifested by insomnia, lassitude, weakness, fatigue; reversible mental depression progressing to catatonia; visual disturbances; hallucinations; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics.

Gastrointestinal: nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory: bronchospasm.

Hematologic: agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily. If patients are switched from INDERAL tablets to INDERAL LA capsules, care should be taken to assure that the desired therapeutic effect is maintained. INDERAL LA should not be considered a simple mg for mg substitute for INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitration may be necessary especially to maintain effectiveness at the end of the 24-hour dosing interval.

HYPERTENSION—*Dosage must be individualized.* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood-pressure control is achieved. The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage of 640 mg may be required. The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three to seven day intervals until optimum response is obtained. Although individual patients may respond at any dosage level, the average optimum dosage appears to be 160 mg once daily. In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

MIGRAINE—*Dosage must be individualized.* The initial oral dose is 80 mg INDERAL LA once daily. The usual effective dose range is 160-240 mg once daily. The dosage may be increased gradually to achieve optimum migraine prophylaxis. If a satisfactory response is not obtained within four to six weeks after reaching the maximum dose, INDERAL LA therapy should be discontinued. It may be advisable to withdraw the drug gradually over a period of several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use.

*The appearance of these capsules is a registered trademark of Ayerst Laboratories.

REFERENCES:

1. INDERAL LA National Compliance Evaluation Program. Data on file, Ayerst Laboratories.
2. Ravid M, Lang R, Jutrin I: The relative antihypertensive potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily. *Arch Intern Med* 1985; 145:1321-1323.

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Outpatient Microsurgical Management of Ruptured Lumbar Discs

Larry A. Rogers, M.D.

Computed tomography and microsurgical techniques enable safe outpatient treatment of some ruptured lumbar discs.

The reliability of computed tomography (CT)[1-4] and microsurgical techniques[5,6] in managing patients with ruptured lumbar discs has been established. By combining these two methods it becomes possible to diagnose and treat these patients safely and effectively as outpatients. Potential savings in hospital costs are enormous.

This account of one surgeon's experience with 32 patients scheduled to have outpatient operations is illustrative. I shall also compare the results achieved in 68 patients undergoing microdiscectomy to those achieved in a similar group treated by laminectomy.

Clinical Material

Only patients suspected of having a virgin lumbar disc rupture not responding to conservative treatment are considered in this series. Patients with recurrent disc ruptures and patients in whom spondylosis appeared to be the offending lesion preoperatively are not included.

Between May, 1982 and December, 1985 all patients treated surgically for ruptured lumbar discs underwent microdiscectomy. For the last 21 months of this study microdiscectomy was performed on an outpatient basis in 32 of the 39 patients treated by the microsurgical method. During this period all patients with ruptured lumbar discs were treated with microsurgical operations, and no attempt was made to select patients for outpatient versus inpatient management. Of those treated as inpatients during this period, six were in the hospital at the time the decision to have surgery was made: four had been admitted for myelography since outpatient CT scans were equivocal, and two were seen in consultation at the request of other physicians. An additional patient was hospitalized as an emergency during this period for control of severe pain. He had driven 80 miles for outpatient evaluation, and hospitalization was necessary to relieve his suffering while surgery was being scheduled.

Sixty-eight similar patients underwent "laminectomy" between December 1978 and May 1982. In each case an effort was made to remove the entire intervertebral disc through a generous laminotomy, followed by exposing the nerve root well laterally through a wide foramenotomy. Since May, 1981 microdiscectomy has been the surgical procedure of our preference for patients suspected of having a ruptured lumbar disc. An occasional laminectomy was performed between May 1981 and May 1982 primarily in obese patients and in those with less than compelling findings.

CT scans were performed in most cases with the GE 9800 high resolution scanner, and all were interpreted by an experienced neuroradiologist.

Laboratory tests, chest x-rays, and ECGs were obtained, when appropriate, on outpatients the day prior to surgery. All microsurgical operations were performed under general anesthesia in the neurosurgical operating theater, utilizing microsurgical techniques and the Zeiss OpMi-1 microscope equipped with a 300 mm lens and mounted on a Contraves stand. Exposures were achieved uniformly through 1-inch incisions, and only rarely was it necessary to remove any bone in order to visualize the affected nerve root and disc. Only the offending fragment was removed in the first 33 patients, while total discectomy was carried out during the last 35 microsurgical procedures.

From Charlotte Neurosurgical Associates, P.A., 1010 Edgehill Road North, Charlotte 28207.

Results

Table 1 compares patients undergoing microdiscectomy and laminectomy with respect to sex, age, mechanical and neurological findings, incidence of workmen's compensation and liability claims, radiographic means of diagnosis, and surgical pathology. Generally myelograms were performed on patients undergoing microdiscectomy only when the CT findings were equivocal. Myelography was the primary means of diagnosis among the laminectomy patients since lumbar spine CT scanning had not become a proven technique in our community at the time most of these patients were treated. Whether or not the fragment causing nerve root compression had escaped the confines of the outermost layer of the annulus fibrosis provides the distinction between rupture and extruded fragment, an extruded fragment being an entirely "free" fragment.

Microdiscectomy patients did not receive morphine or demerol or their equivalents in the postoperative period, and the majority took only aspirin or tylenol after the first two days. Codeine was the only controlled substance employed. Corticosteroids were not used, either topically in the operating room or in any form during the perioperative period.

Table 1

Clinical Characteristics of the Surgical Groups

	Microdiscectomy (68)	*Laminectomy (68)*
Average age	44.4 (27-78 yrs)	44.4 (25-78 yrs)
Sex:		
Men	38	37
Women	30	31
Straight leg sign present	56	65
Neurologic deficit:		
None	21	17
Sensory only	30	33
Motor only	2	4
Motor-sensory	8	9
Abnormal reflex only	7	5
Liability-Workman's Compensation	14	11
CT scan:		
# Studies done	51	4
Disc rupture	43 (84%)	3 (75%)
Equivocal	6 (12%)	1 (25%)
Spondylosis	2 (4%)	0
Myelogram:		
# Studies done	34	67
Disc rupture	32 (94%)	60 (90%)
Equivocal	2 (6%)	7 (10%)
Surgical Findings:		
Extruded fragment	27	24
Rupture	33	39
Bulging disc only	5	3
Spondylosis only	2	0
Negative	1	2

Table 2

Effect of Surgery on Leg Pain

	Week #3		Week #6	
Microdiscectomy (68 patients)				
No pain	32	51	43	56
Occasional, slight	19		13	
Slight pain	4		3	
Less than preop	9		1	
Same as preop	3		6	
Worse	1		2	
Laminectomy (68 patients)				
No pain	44	54	48	58
Occasional, slight	10		10	
Slight pain	4		4	
Less than preop	7		6	
Same as preop	1		0	
No data	2		0	

Those patients treated as outpatients were generally ambulatory within three or four hours of surgery.

Of the 32 patients whose microdiscectomy was scheduled to be performed on an outpatient basis, only three required overnight hospitalization, and each of these was discharged the following morning. One experienced more back and leg pain than expected, another was kept at bedrest overnight because of a dural tear, and the third suffered severe nausea and vomiting following anesthesia.

Average hospital utilization was 1.09 days in the outpatient group, compared to 2.76 (range, 1-20) days of postoperative care in the microsurgical group overall. Laminectomy patients required an average of 7.19 (range, 3-15) days of postoperative care in the hospital.

Table 2 summarizes the efficiency of surgery in relieving lower extremity pain at three and six weeks. Neither operation appeared to be superior in this respect.

Patients were encouraged to return to work and full physical activities whenever they felt able. Table 3 indicates the number of patients working three, six, and ten weeks following surgery. Nearly one-third of the microsurgically treated patients had returned to full work responsibilities within three weeks, compared to only three of those treated by laminectomy. Even at six weeks the number of patients working in the microsurgical group was nearly twice that in the laminectomy group. Only after ten weeks did the number of patients working equalize between the two groups.

The primary difference in postoperative condition of patients in two groups was the amount of residual back discomfort and fear of back dysfunction. Significant back pain was unusual following microdiscectomy and decidedly rare

Table 3

Number of Patients Working Following Surgery

	Week #3	*Week #6*	*Week #10*
Microdiscectomy (68)	22	51	52
Laminectomy (68)	3	27	51

48 hours after surgery. Influenced by our experience in managing laminectomy patients for a number of years, we advised patients undergoing microdiscectomy early in the series to avoid such activities as jogging, tennis, and golf for three months. Recently, however, some patients have reported successful participation in such activities within six weeks of surgery without untoward effects.

Fourteen of 32 patients (44%) undergoing microdiscectomy as outpatients had returned to work within three weeks, compared to eight of 36 (22%) treated microsurgically as inpatients. Undoubtedly the strong sense of well-being engendered by the technique was a major factor in this phenomenon.

Of the 33 patients treated by removing only the ruptured fragment, seven (21%) developed a recurrence, six within a year. In the last 35 patients treated by the microsurgical method, in whom as much of the intervertebral disc as possible was removed, there have been no recurrences to date. There was only a single recurrence among the 68 patients undergoing standard surgical treatment and followed for a minimum of 42 months.

Four patients undergoing microdiscectomy experienced a complication. Two developed wound infections. One patient developed severe recurrent pain the day following surgery, and a CT scan subsequently demonstrated an epidural hematoma at the operative site which displaced the previously affected nerve root. Her pain resolved after two weeks of conservative treatment. Another developed a small pseudomeningocoele several days following surgery which healed spontaneously after ten days of bedrest. Of the 68 patients undergoing standard laminectomy two wound infections were the only complications encountered.

Discussion

CT scanning methods and microsurgical techniques provide the potential for avoiding many of the problems long attendant to lumbar spine surgery for ruptured discs: back pain, prolonged hospitalization, and the complications of myelography. For the past several years we generally have relied upon computed tomography to confirm our clinical diagnosis of lumbar disc rupture, employing myelography only when scans were equivocal.

During this period of time, microdiscectomy has been performed almost exclusively once a diagnosis of primary disc rupture has been established, but only upon encountering a young woman three years ago with a ruptured disc and no hospitalization insurance did we consider attempting this operation on an outpatient basis. Since then we have treated 28 patients without overnight hospitalization, generally with good results, and with no notable untoward effects.

If computed tomography is to be employed as the primary means of radiographic diagnosis, the importance of top-quality studies cannot be over-emphasized. Examinations from body scanners of limited resolution interpreted by radiologists not experienced in the nuances of spine diagnosis will result in unnecessary errors.

Reducing hospital utilization for postoperative care from an average of 7.19 days for patients treated by laminectomy to 1.09 days for microsurgically treated patients represents an enormous cost savings. When this savings in medical expense is coupled with the average patient's reduced period of absence from the work force, the true potential economic benefit of microdiscectomy is clear.

The technique of microdiscectomy will likely continue to evolve. Certainly whether a surgeon should remove the entire disc or only the offending fragment, as proposed by Williams,[5] remains a controversial issue. Based on the high recurrence rate we experienced in our first 33 patients, in whom only the offending fragment was removed, we are convinced that the entire disc should be excised in every patient. Although additional follow-up will be necessary for confirmation, it seems reasonable to expect no greater recurrence rate among microsurgically treated patients than among those treated by more conventional techniques.

Conclusions

1. Microdiscectomy requires neither strong narcotics, corticosteroids, nor extensive bed rest during the postoperative period and is as effective as standard laminotomy, foramenotomy, and discectomy in relieving leg pain.
2. Patients undergoing microdiscectomy are more likely to return to work within three weeks of surgery than patients managed by laminectomy.
3. Microdiscectomy can be performed safely and effectively in an outpatient setting and is therefore a very cost-effective operation.
4. Removal of the entire disc appears to be preferable to the technique of removing only the ruptured fragment. ■

Acknowledgment

I would like to thank my colleagues, Drs. Jerry Petty, Bob Brawley, Jerry Greenhoot, Scott McLanahan and Craig Van Der Veer for their encouragement during this project, Mrs. Ruth Rankin for her technical assistance in the operating room, and Ms. Trudie Rodgers for her assistance in preparing the manuscript.

References

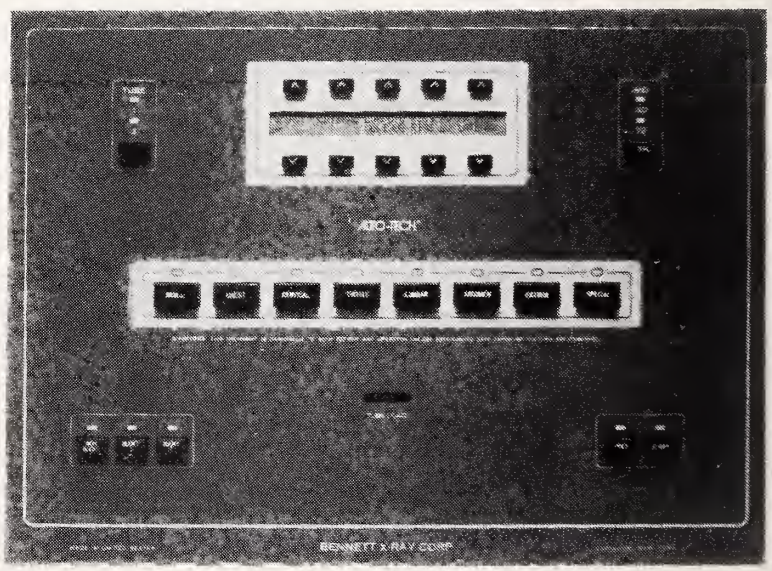
1 Carrera GF, Williams AL, Haughton VM. Computed tomography in sciatica. Radiology 1980;137:433-7.
2 Glenn WV, Jr., Rhodes ML, Altshuler EM, Wiltse LL, Kostanek C, Kuo YM. Multiplanar display computerized body tomography application in the lumbar spine. Spine 1979;4:282-352.

3 Moufarrij NA, Hardy RW, Weinstein MA; Computed tomographic, myelographic, and operative findings in patients with suspected herniated lumbar discs. Neurosurg 1983;12:184-8.
4 Williams AL, Haoughton VM, Syversten A. Computed tomography in the diagnosis of herniated nucleus pulposis. Radiology 1980;135:95-9.
5 Williams RW. Microlumbar discectomy: a conservative surgical approach to the virgin herniated lumbar disc. Spine 1978;3:175-82.
6 Wilson DH, Harbaugh R. Microsurgical and standard removal of the protruded lumbar disc: a comparative study. Neurosurg 1981;8:422-7.

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Please see adjacent page for summary of product information.

Rocephin® IV·IM

ceftriaxone sodium/Roche

Before prescribing, please consult complete product information, a summary of which follows:

MICROBIOLOGY: The bactericidal activity of ceftriaxone results from inhibition of cell wall synthesis. Ceftriaxone has a high degree of stability in the presence of beta-lactamases, both penicillinases and cephalosporinases, of gram-negative and gram-positive bacteria. Ceftriaxone is usually active against the following microorganisms *in vitro* and in clinical infections (see Indications and Usage):

GRAM-NEGATIVE AEROBES: *Enterobacter aerogenes, Enterobacter cloacae, Escherichia coli, Haemophilus influenzae* (including ampicillin-resistant strains), *H. parainfluenzae, Klebsiella* species (including *K. pneumoniae*), *Neisseria gonorrhoeae* (including penicillinase and nonpenicillinase producing strains), *Neisseria meningitidis, Proteus mirabilis, Proteus vulgaris, Morganella morganii* and *Serratia marcescens.*

Note: Many strains of the above organisms that are multiply resistant to other antibiotics, *e.g.*, penicillins, cephalosporins and aminoglycosides, are susceptible to ceftriaxone sodium.

Ceftriaxone is also active against many strains of *Pseudomonas aeruginosa.*

GRAM-POSITIVE AEROBES: Staphylococcus aureus (including penicillinase-producing strains) and *Staphylococcus epidermidis* (Note: methicillin-resistant staphylococci are resistant to cephalosporins, including ceftriaxone), *Streptococcus pyogenes* (Group A beta-hemolytic streptococci), *Streptococcus agalactiae* (Group B streptococci) and *Streptococcus pneumoniae.* (Note: Most strains of enterococci, *Streptococcus faecalis* and Group D streptococci are resistant.)

Ceftriaxone also demonstrates *in vitro* activity against the following microorganisms, although the clinical significance is unknown:

GRAM-NEGATIVE AEROBES: Citrobacter freundii, Citrobacter diversus, Providencia species (including *Providencia rettgeri*), *Salmonella* species (including *S. typhi*), *Shigella* species and *Acinetobacter calcoaceticus.*

ANAEROBES: Bacteroides species, *Clostridium* species (Note: most strains of *C. difficile* are resistant).

SUSCEPTIBILITY TESTING: Standard susceptibility disk method. Quantitative methods that require measurement of zone diameters give the most precise estimate of antibiotic susceptibility. One such procedure (Bauer AW, Kirby WMM, Sherris JC, Turck M: Antibiotic Susceptibility Testing by a Standardized Single Disk Method, *Am J Clin Pathol 45*: 493-496, 1966; Standardized Disk Susceptibility Test, *Federal Register 39*: 19182-19184, 1974, National Committee for Clinical Laboratory Standards, Approved Standard. ASM-2, Performance Standards for Antimicrobial Disk Susceptibility Tests, July 1975.) has been recommended for use with disks to test susceptibility to ceftriaxone.

Laboratory results of the standardized single-disk susceptibility test using a 30-mcg ceftriaxone disk should be interpreted according to the following three criteria:

1. Susceptible organisms produce zones of 18 mm or greater, indicating that the tested organism is likely to respond to therapy.
2. Organisms that produce zones of 14 to 17 mm are expected to be susceptible if a high dosage (not to exceed 4 gm per day) is used or if the infection is confined to tissues and fluids (*e.g.*, urine), in which high antibiotic levels are attained.
3. Resistant organisms produce zones of 13 mm or less, indicating that other therapy should be selected.

Organisms should be tested with the ceftriaxone disk, since ceftriaxone has been shown by *in vitro* tests to be active against certain strains found resistant to cephalosporin class disks.

Organisms having zones of less than 18 mm around the cephalothin disk are not necessarily of intermediate susceptibility or resistant to ceftriaxone.

Standardized procedures require use of control organisms. The 30-mcg ceftriaxone disk should give zone diameters between 29 and 35 mm, 22 and 28 mm and 17 and 23 mm for the reference strains *E.coli* ATCC 25922, *S.aureus* ATCC 25923 and *P. aeruginosa* ATCC 27853, respectively.

DILUTION TECHNIQUES: Based on the pharmacokinetic profile of ceftriaxone, a bacterial isolate may be considered susceptible if the MIC value for ceftriaxone is not more than 16 mcg/ml. Organisms are considered resistant to ceftriaxone if the MIC is equal to or greater than 64 mcg/ml. Organisms having an MIC value of less than 64 mcg/ml, but greater than 16 mcg/ml, are expected to be susceptible if a high dosage (not to exceed 4 gm per day) is used or if the infection is confined to tissues and fluids (*e.g.*, urine), in which high antibiotic levels are attained.

E. coli ATCC 25922, *S. aureus* ATCC 25923 and *P. aeruginosa* ATCC 27853 are also the recommended reference strains for controlling ceftriaxone dilution tests. Greater than 95% of MICs for the *E. coli* strain should fall within the range of 0.016 to 0.5 mcg/ml. The range for the *S. aureus* strain should be 1 to 2 mcg/ml, while for the *P. aeruginosa* strain the range should be 8 to 64 mcg/ml.

INDICATIONS AND USAGE: Rocephin is indicated for the treatment of the following infections when caused by susceptible organisms:

LOWER RESPIRATORY TRACT INFECTIONS caused by *Strep. pneumoniae, Streptococcus* species (excluding enterococci), *Staph. aureus, H. influenzae, H. parainfluenzae, Klebsiella* species (including *K. pneumoniae*), *E. coli, E. aerogenes, Proteus mirabilis* and *Serratia marcescens.*

SKIN AND SKIN STRUCTURE INFECTIONS caused by *Staph. aureus, Staph epidermidis, Streptococcus* species (excluding enterococci), *E. cloacae, Klebsiella* species (including *K. pneumoniae*), *Proteus mirabilis* and *Pseudomonas aeruginosa.*

URINARY TRACT INFECTIONS (complicated and uncomplicated) caused by *E. coli, Proteus mirabilis, Proteus vulgaris, M. morganii* and *Klebsiella* species (including *K. pneumoniae*).

UNCOMPLICATED GONORRHEA (cervical/urethral and rectal) caused by *Neisseria gonorrhoeae*, including both penicillinase and nonpenicillinase producing strains.

PELVIC INFLAMMATORY DISEASE caused by *N. gonorrhoeae*

BACTERIAL SEPTICEMIA caused by *Staph. aureus, Strep. pneumoniae, E. coli, H. influenzae* and *K. pneumoniae.*

BONE AND JOINT INFECTIONS caused by *Staph. aureus, Strep. pneumoniae, Streptococcus* species (excluding enterococci), *E. coli, P. mirabilis, K. pneumoniae* and *Enterobacter* species.

INTRA-ABDOMINAL INFECTIONS caused by *E. coli* and *K. pneumoniae.*

MENINGITIS caused by *H. influenzae, N. meningitidis* and *Strep. pneumoniae.* Ceftriaxone has also been used successfully in a limited number of cases of meningitis and shunt infections caused by *Staph. epidermidis* and *E. coli.*

PROPHYLAXIS: The administration of a single dose of ceftriaxone preoperatively may reduce the incidence of postoperative infections in patients undergoing coronary artery bypass surgery.

Although ceftriaxone has been shown to have been as effective as cefazolin in the prevention of infection following coronary artery bypass surgery, no placebo-controlled trials have been conducted to evaluate any cephalosporin antibiotic in the prevention of infection following coronary artery bypass surgery.

SUSCEPTIBILITY TESTING: Before instituting treatment with Rocephin, appropriate specimens should be obtained for isolation of the causative organism and for determination of its susceptibility to the drug. Therapy may be instituted prior to obtaining results of susceptibility testing.

CONTRAINDICATIONS: Rocephin is contraindicated in patients with known allergy to the cephalosporin class of antibiotics.

WARNINGS: BEFORE THERAPY WITH ROCEPHIN IS INSTITUTED, CAREFUL INQUIRY SHOULD BE MADE TO DETERMINE WHETHER THE PATIENT HAS HAD PREVIOUS HYPERSENSITIVITY REACTIONS TO CEPHALOSPORINS, PENICILLINS OR OTHER DRUGS. THIS PRODUCT SHOULD BE GIVEN CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. ANTIBIOTICS SHOULD BE ADMINISTERED WITH CAUTION TO ANY PATIENT WHO HAS DEMONSTRATED SOME FORM OF ALLERGY, PARTICULARLY TO DRUGS. SERIOUS ACUTE HYPERSENSITIVITY REACTIONS MAY REQUIRE THE USE OF SUBCUTANEOUS EPINEPHRINE AND OTHER EMERGENCY MEASURES.

Pseudomembranous colitis has been reported with the use of cephalosporins (and other broad-spectrum antibiotics); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with antibiotic use.

ROCEPHIN® (ceftriaxone sodium/Roche)

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis. Cholestyramine and colestipol resins have been shown to bind to the toxin *in vitro*.

Mild cases of colitis respond to drug discontinuance alone. Moderate to severe cases should be managed with fluid, electrolyte and protein supplementation as indicated.

When the colitis is not relieved by drug discontinuance or when it is severe, oral vancomycin is the treatment of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should also be considered.

PRECAUTIONS: *GENERAL:* Although transient elevations of BUN and serum creatinine have been observed, at the recommended dosages, the nephrotoxic potential of Rocephin is similar to that of other cephalosporins.

Ceftriaxone is excreted via both biliary and renal excretion (see Clinical Pharmacology). Therefore, patients with renal failure normally require no adjustment in dosage when usual doses of Rocephin are administered, but concentrations of drug in the serum should be monitored periodically. If evidence of accumulation exists, dosage should be decreased accordingly.

Dosage adjustments should not be necessary in patients with hepatic dysfunction; however, in patients with both hepatic dysfunction and significant renal disease, Rocephin dosage should not exceed 2 gm daily without close monitoring of serum concentrations.

Alterations in prothrombin times have occurred rarely in patients treated with Rocephin. Patients with impaired vitamin K synthesis or low vitamin K stores (*e.g.*, chronic hepatic disease and malnutrition) may require monitoring of prothrombin time during Rocephin treatment. Vitamin K administration (10 mg weekly) may be necessary if the prothrombin time is prolonged before or during therapy.

Prolonged use of Rocephin may result in overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Rocephin should be prescribed with caution in individuals with a history of gastrointestinal disease, especially colitis.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY. Carcinogenesis: Considering the maximum duration of treatment and the class of the compound, carcinogenicity studies with ceftriaxone in animals have not been performed. The maximum duration of animal toxicity studies was six months.

Mutagenesis: Genetic toxicology tests included the Ames test, a micronucleus test and a test for chromosomal aberrations in human lymphocytes cultured *in vitro* with ceftriaxone. Ceftriaxone showed no potential for mutagenic activity in these studies.

Impairment of Fertility: Ceftriaxone produced no impairment of fertility when given intravenously to rats at daily doses up to 586 mg/kg/day, approximately 20 times the recommended clinical dose of 2 gm/day.

PREGNANCY. Teratogenic Effects. Pregnancy Category B. Reproductive studies have been performed in mice and rats at doses up to 20 times the usual human dose and have no evidence of embryotoxicity, fetotoxicity or teratogenicity. In primates, no embryotoxicity or teratogenicity was demonstrated at a dose approximately three times the human dose.

There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproductive studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nonteratogenic Effects. In rats, in the Segment I (fertility and general reproduction) and Segment III (perinatal and postnatal) studies with intravenously administered ceftriaxone, no adverse effects were noted on various reproductive parameters during gestation and lactation, including postnatal growth, functional behavior and reproductive ability of the offspring, at doses of 586 mg/kg/day or less.

NURSING MOTHERS. Low concentrations of ceftriaxone are excreted in human milk. Caution should be exercised when Rocephin is administered to a nursing woman.

PEDIATRIC USE. Safety and effectiveness of Rocephin in neonates, infants and children have been established for the dosages described in the Dosage and Administration section.

ADVERSE REACTIONS: Rocephin is generally well tolerated. In clinical trials, the following adverse reactions, which were considered to be related to Rocephin therapy or of uncertain etiology, were observed:

LOCAL REACTIONS—pain, induration or tenderness at the site of injection (1%). Less frequently reported (less than 1%) was phlebitis after I.V. administration.

HYPERSENSITIVITY—rash (1.7%). Less frequently reported (less than 1%) were pruritus, fever or chills.

HEMATOLOGIC—eosinophilia (6%), thrombocytosis (5.1%) and leukopenia (2.1%). Less frequently reported (less than 1%) were anemia, neutropenia, lymphopenia, thrombocytopenia and prolongation of the prothrombin time.

GASTROINTESTINAL—diarrhea (2.7%). Less frequently reported (less than 1%) were nausea or vomiting, and dysgeusia.

HEPATIC—elevations of SGOT (3.1%) or SGPT (3.3%). Less frequently reported (less than 1%) were elevations of alkaline phosphatase and bilirubin.

RENAL—elevations of the BUN (1.2%). Less frequently reported (less than 1%) were elevations of creatinine and the presence of casts in the urine.

CENTRAL NERVOUS SYSTEM—headache or dizziness were reported occasionally (less than 1%).

GENITOURINARY—moniliasis or vaginitis were reported occasionally (less than 1%).

MISCELLANEOUS—diaphoresis and flushing were reported occasionally (less than 1%).

Other rarely observed adverse reactions (less than 0.1%) include leukocytosis, lymphocytosis, monocytosis, basophilia, a decrease in the prothrombin time, jaundice, glycosuria, hematuria, bronchospasm, serum sickness, abdominal pain, colitis, flatulence, dyspepsia, palpitations and epistaxis.

DOSAGE AND ADMINISTRATION: Rocephin may be administered intravenously or intramuscularly. The usual adult daily dose is 1 to 2 gm given once a day (or in equally divided doses twice a day) depending on the type and severity of the infection. The total daily dose should not exceed 4 grams.

For the treatment of serious miscellaneous infections in children, other than meningitis, the recommended total daily dose is 50 to 75 mg/kg (not to exceed 2 grams), given in divided doses every 12 hours. Generally, Rocephin therapy should be continued for at least two days after the signs and symptoms of infection have disappeared. The usual duration is 4 to 14 days; in complicated infections longer therapy may be required.

In the treatment of meningitis, a daily dose of 100 mg/kg (not to exceed 4 grams), given in divided doses every 12 hours, should be administered with or without a loading dose of 75 mg/kg.

For the treatment of uncomplicated gonococcal infections, a single intramuscular dose of 250 mg is recommended.

For preoperative use (surgical prophylaxis), a single dose of 1 gm administered ½ to 2 hours before surgery is recommended.

When treating infections caused by *Streptococcus pyogenes*, therapy should be continued for at least ten days.

No dosage adjustment is necessary for patients with impairment of renal or hepatic function, however, blood levels should be monitored in patients with severe renal impairment (*e.g.*, dialysis patients) and in patients with both renal and hepatic dysfunctions.

HOW SUPPLIED: Rocephin (ceftriaxone sodium/Roche) is supplied as a sterile crystalline powder in glass vials and piggyback bottles. The following packages are available:

Vials containing 250 mg equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1962-01).
Vials containing 500 mg equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1963-01).
Vials containing 1 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1964-01).
Piggyback bottles containing 1 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1964-03).
Vials containing 2 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1965-01).
Piggyback bottles containing 2 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1965-03).
Bulk pharmacy containers, containing 10 gm equivalent of ceftriaxone. Boxes of 1 (NDC 0004-1971-01).
NOT FOR DIRECT ADMINISTRATION.

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References:

1. Data on file, Hoffmann-La Roche Inc.
2. Patel IH, Kaplan SA: *Am J Med 77*:17-25, Oct 19, 1984.
3. Richards DM, *et al: Drugs 27*:469-527, 1984.
4. Cleeland R, Squires E: *Am J Med 77*:3-11, Oct 19, 1984.
5. Tanner DJ, Nazarian MQ: *Am J Med 77*:104-111, Oct 19, 1984.

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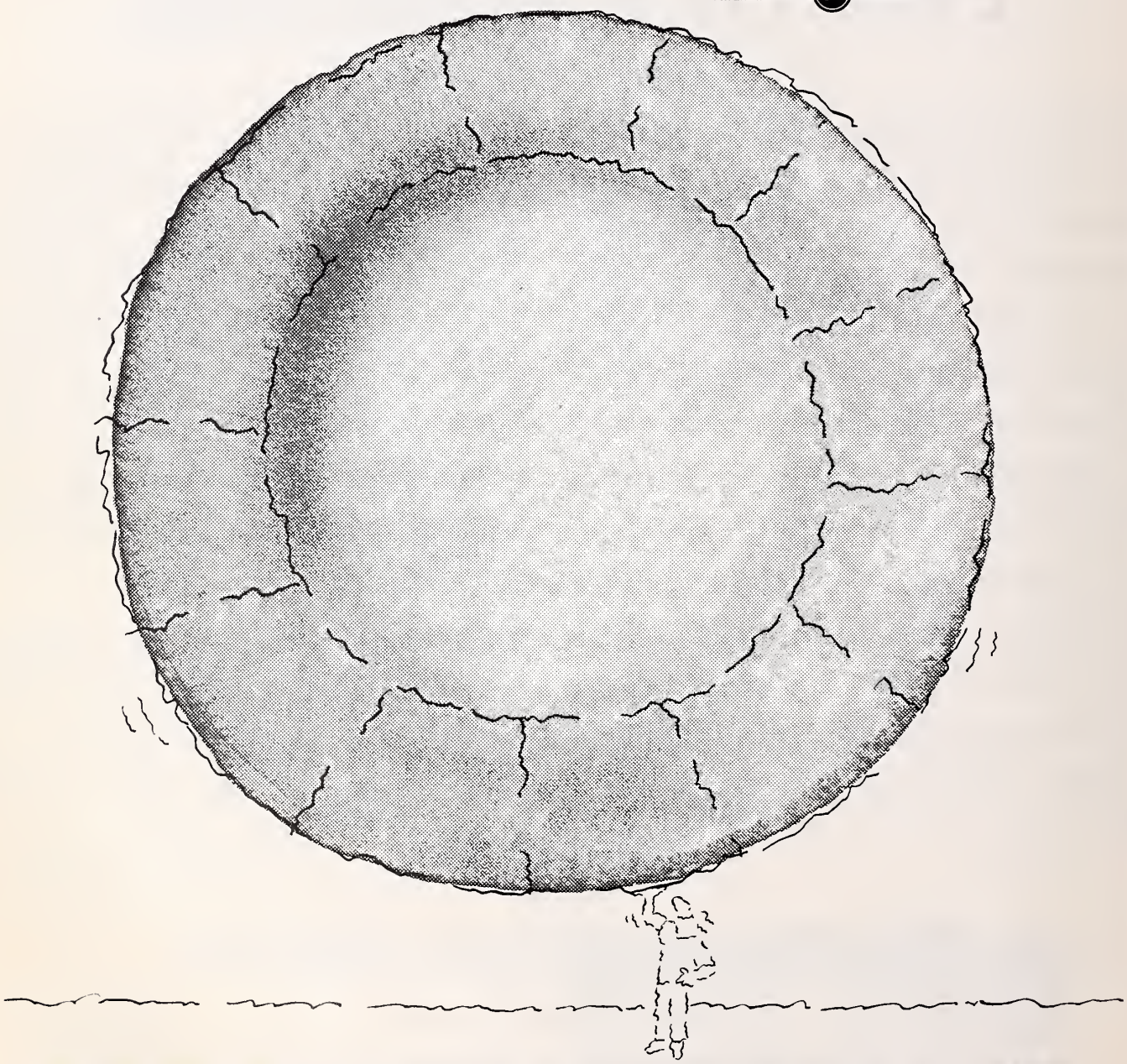
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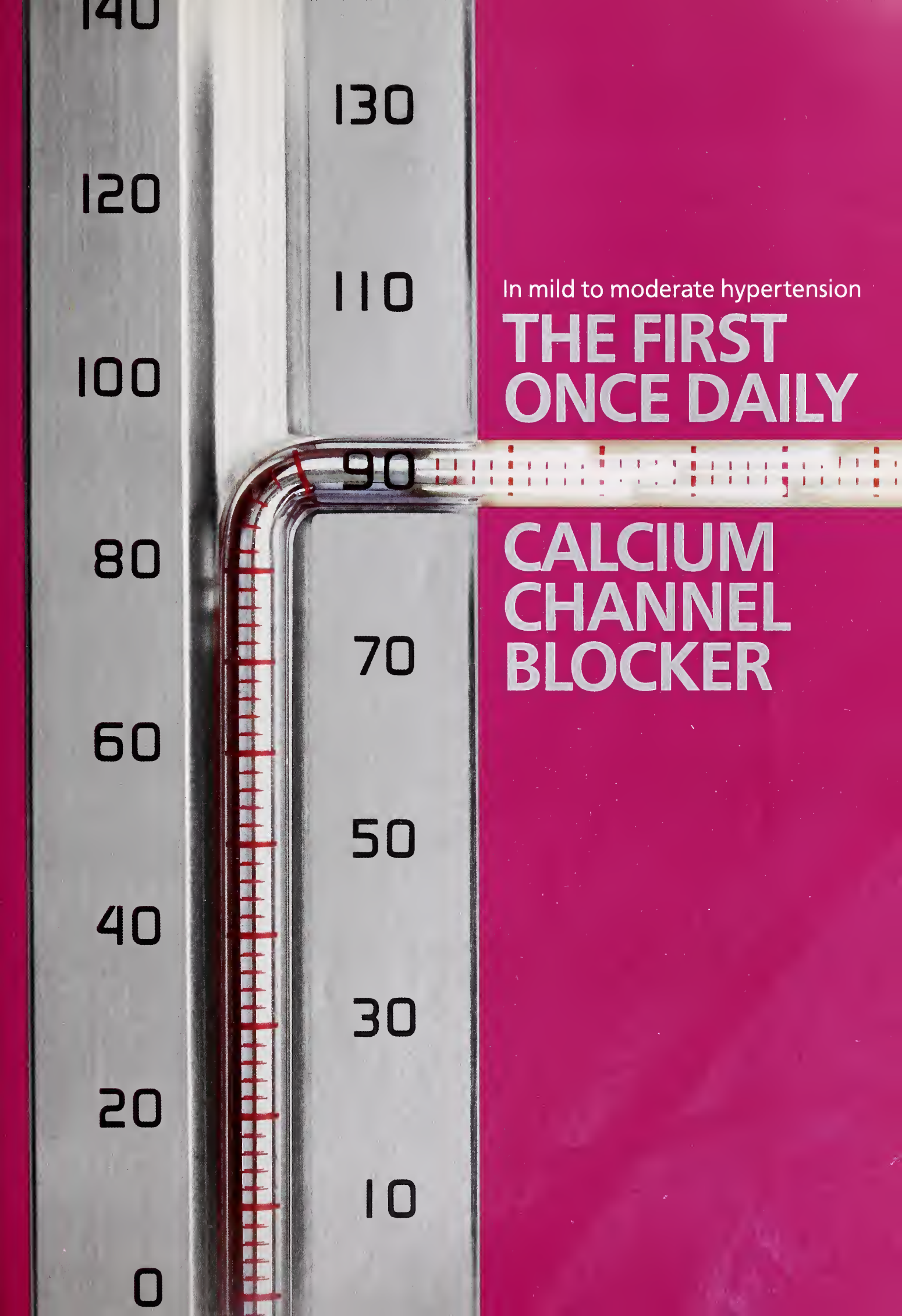
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130
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110
100
90
80
70
60
50
40
30
20
10
0
In mild to moderate hypertension
THE FIRST ONCE DAILY
CALCIUM CHANNEL BLOCKER

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ISOPTIN® SR*

(verapamil HCl/Knoll)

240 mg scored, sustained-release tablets



JAMES B.
38, black male, heavy smoker. Prescribed a diuretic by another physician last year for hypertension.

YOUR CONCERNS
Presents with "smoker's cough." Workup reveals a BP of 150/107.

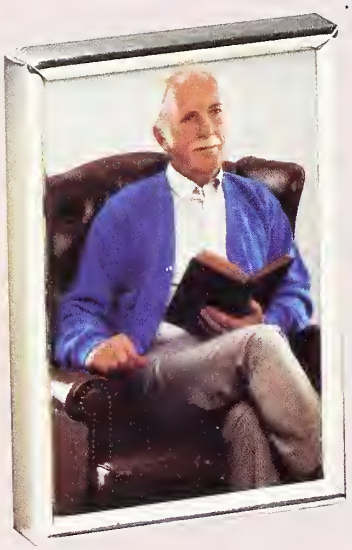
A LOGICAL CHOICE FOR CONTROL OF HIS BP
ISOPTIN® (verapamil HCl/Knoll) because...
— Black hypertensives often have low plasma renin activity and generally do not respond favorably to beta blockers.
— Beta blockers may increase the likelihood of bronchospasm.

ALICE W.
65, diabetic, overweight. Her BP has elevated to 190/98.

YOUR CONCERNS
She's on daily insulin.

A LOGICAL CHOICE FOR CONTROL OF HER BP
ISOPTIN® (verapamil HCl/Knoll) because...
— Unlike most beta blockers and diuretics, ISOPTIN has no adverse effects on serum glucose levels.
— Unlike most beta blockers, ISOPTIN does not mask the symptoms of hypoglycemia.





THOMAS G.
70, asthmatic. In the past, BP adequately controlled with 25 mg hydrochlorothiazide daily.

YOUR CONCERNS
Today patient presents with symptoms of gout. Workup reveals high uric acid level, low serum potassium, and BP elevated to 180/98.

A LOGICAL CHOICE FOR CONTROL OF HIS BP
ISOPTIN® (verapamil HCl/Knoll) because...
— Unlike diuretics, ISOPTIN will not decrease serum potassium levels or elevate uric acid levels.
— Unlike beta blockers, ISOPTIN can be used safely in asthma and COPD patients.

JOHN K.
42, Annual physical uncovered diastolic BP of 102... confirmed on three successive office visits. Unresponsive to nonpharmacologic intervention.

YOUR CONCERNS
Salesman, spends many hours of his working day in car... total cholesterol level 300, HDL 35.

A LOGICAL CHOICE FOR CONTROL OF HIS BP
ISOPTIN® (verapamil HCl/Knoll) because...
— Unlike diuretics, ISOPTIN does not cause urinary urgency.
— Unlike either beta blockers or diuretics, ISOPTIN will not adversely affect his already seriously compromised lipid profile.
— Unlike with propranolol, fatigue and impotence are rarely reported.



Antihypertensive therapy you and your patients can live with

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In mild to moderate hypertension

Brief Summary

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ISOPTIN® SR (verapamil HCl/Knoll) 240 mg scored, sustained-release tablets

CONTRAINDICATIONS: 1) Severe left ventricular dysfunction (see WARNINGS), 2) Hypotension (less than 90 mmHg systolic pressure) or cardiogenic shock, 3) Sick sinus syndrome or 2nd or 3rd degree AV block (except in patients with a functioning artificial ventricular pacemaker).

WARNINGS: Heart Failure: ISOPTIN should be avoided in patients with severe left ventricular dysfunction (see DRUG INTERACTIONS). Patients with milder ventricular dysfunction should, if possible, be controlled before verapamil treatment. Hypotension: ISOPTIN (verapamil HCl) may produce occasional symptomatic hypotension. Elevated Liver Enzymes: Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Periodic monitoring of liver function in patients receiving verapamil is therefore prudent. Accessory Bypass Tract (Wolff-Parkinson-White): Patients with paroxysmal and/or chronic atrial flutter or atrial fibrillation and a coexisting accessory AV pathway have developed increased antegrade conduction across the accessory pathway producing a very rapid ventricular response or ventricular fibrillation after receiving intravenous verapamil. While this has not been reported with oral verapamil, it should be considered a potential risk. Treatment is usually D.C.-cardioversion. Atrioventricular Block: The effect of verapamil on AV conduction and the SA node may cause asymptomatic 1st degree AV block and transient bradycardia. Higher degrees of AV block, while infrequent (0.8%), may require a reduction in dosage or, in rare instances, discontinuation of verapamil HCl. Patients with Hypertrophic Cardiomyopathy (IHSS): Although verapamil has been used in the therapy of patients with IHSS, severe cardiovascular decompensation and death have been noted in this patient population.

PRECAUTIONS: Impaired Hepatic or Renal Function: Verapamil is highly metabolized by the liver with about 70% of an administered dose excreted in the urine. In patients with impaired hepatic or renal function verapamil should be administered cautiously and the patients monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacological effects (see OVERDOSAGE).

Drug Interactions: Beta Blockers: Concomitant use of ISOPTIN and oral beta-adrenergic blocking agents may be beneficial in certain patients with chronic stable angina or hypertension, but available information is not sufficient to predict with confidence the effects of concurrent treatment in patients with left ventricular dysfunction or cardiac conduction abnormalities. Digitalis: Clinical use of verapamil in digitalized patients has shown the combination to be well tolerated if digoxin doses are properly adjusted. However, chronic verapamil treatment increases serum digoxin levels by 50 to 75% during the first week of therapy and this can result in digitalis toxicity. Upon discontinuation of ISOPTIN (verapamil HCl), the patient should be reassessed to avoid underdigitalization. Antihypertensive Agents: Verapamil administered concomitantly with oral antihypertensive agents (e.g., vasodilators, angiotensin-converting enzyme inhibitors, diuretics, beta blockers, prazosin) will usually have an additive effect on lowering blood pressure. Patients receiving these combinations should be appropriately monitored. Disopyramide: Disopyramide should not be administered within 48 hours before or 24 hours after verapamil administration. Quinidine: In patients with hypertrophic cardiomyopathy (IHSS), concomitant use of verapamil and quinidine resulted in significant hypotension. There has been a report of increased quinidine levels during verapamil therapy. Nitrates: The pharmacologic profile of verapamil and nitrates as well as clinical experience suggest beneficial interactions. Cimetidine: Two clinical trials have shown a lack of significant verapamil interaction with cimetidine. A third study showed cimetidine reduced verapamil clearance and increased elimination to 1/2. Anesthetic Agents: Verapamil may potentiate the activity of neuromuscular blocking agents and inhalation anesthetics. Carbamazepine: Verapamil may increase carbamazepine concentrations during combined therapy. Rifampin: Therapy with rifampin may markedly reduce oral verapamil bioavailability. Lithium: Verapamil may lower lithium levels in patient on chronic oral lithium therapy. Carcinogenesis, Mutagenesis, Impairment of Fertility: There was no evidence of a carcinogenic potential of verapamil administered to rats for two years. Verapamil was not mutagenic in the Ames test. Studies in female rats did not show impaired fertility. Effects on male fertility have not been determined. Pregnancy (Category C): There are no adequate and well-controlled studies in pregnant women. ISOPTIN crosses the placental barrier and can be detected in umbilical vein blood at delivery. This drug should be used during pregnancy, labor, and delivery, only if clearly needed. Nursing Mothers: ISOPTIN is excreted in human milk, therefore, nursing should be discontinued while verapamil is administered. Pediatric Use: Safety and efficacy of ISOPTIN in children below the age of 18 years have not been established.

ADVERSE REACTIONS: Constipation 8.4%, dizziness 3.5%, nausea 2.7%, hypotension 2.5%, edema 2.1%, headache 1.9%, CHF/pulmonary edema 1.8%, fatigue 1.7%, bradycardia 1.4%, 3° AV block 0.8%, flushing 0.1%, elevated liver enzymes (see WARNINGS). The following reactions, reported in less than 1.0% of patients, occurred under conditions (open trials, marketing experience) where a causal relationship is uncertain; they are mentioned to alert the physician to a possible relationship: angina pectoris, arthralgia and rash, AV block, blurred vision, cerebrovascular accident, chest pain, claudication, confusion, diarrhea, dry mouth, dyspnea, ecchymosis or bruising, equilibrium disorders, exanthema, gastrointestinal distress, gingival hyperplasia, gynecomastia, hair loss, hyperkeratosis, impotence, increased urination, insomnia, macules, muscle cramps, myocardial infarction, palpitations, paresthesia, psychotic symptoms, purpura (vasculitis), shakiness, somnolence, spotty menstruation, sweating, syncope, urticaria. Treatment of Acute Cardiovascular Adverse Reactions: Whenever severe hypotension or complete AV block occur following oral administration of verapamil, the appropriate emergency measures should be applied immediately, e.g., intravenously administered isoproterenol HCl, levarterenol bitartrate, atropine (all in the usual doses), or calcium gluconate (10% solution). If further support is necessary, inotropic agents (dopamine or dobutamine) may be administered. Actual treatment and dosage should depend on the severity and the clinical situation and the judgment and experience of the treating physician.

OVERDOSAGE: Treatment of overdosage should be supportive. Beta-adrenergic stimulation or parenteral administration of calcium solutions may increase calcium ion flux across the slow channel, and have been used effectively in treatment of deliberate overdosage with verapamil. Clinically significant hypotensive reactions or fixed high degree AV block should be treated with vasopressor agents or cardiac pacing, respectively. Asystole should be handled by the usual measures including cardiopulmonary resuscitation.

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SCIENTIFIC ARTICLE

A Review of the Basics of Closed Thoracic Drainage

J. Steve Julian, M.D., and Timothy C. Pennell, M.D.

Over the last 20 years the treatment of critically ill patients has become tremendously sophisticated, and it is now routine to "plug" the intensive care unit patient to a ventilator, a Swan-Ganz catheter, computerized monitors, and calibrated infusion pumps. Not infrequently, the patient will also need to have closed thoracic drainage as a result of trauma, infection, surgery, or barotrauma. The closed pleural drainage system is simple, yet seldom understood. Our purpose here is to review briefly the basic principles and practical aspects of closed thoracic drainage with applied negative suction.

The concept of closed pleural drainage originated in England in the 1870s. Among the earliest descriptions of closed continuous irrigation and aspiration of the pleural space is that of Hewett in 1876.[1] In the early 1900s, Kenyon[2] reported using a closed drainage system for the treatment of empyema in children. In 1922 Lilienthal[3] described the use of closed suction drainage following the surgical treatment of bronchiectasis.

The purpose of a closed thoracic drainage system is to generate a negative pressure within the pleural space to promote fluid evacuation and lung expansion. If there has been no disruption of the visceral pleura or lung parenchyma, there is no absolute requirement for the application of suction in closed thoracic drainage. A simple water seal (figure 1) will serve as a one-way valve, permitting egress of pleural fluid or air while preventing reentry of air into the pleural space. The expanding intact lung and any negative pressure generated by fluid contained within nondependent tubing (length B in figure 1) combine to promote obliteration of the pleural space.

It must be recognized, however, that the force favoring lung expansion will be opposed by an opposite force. This force will be equal in centimeters of water to the pressure created by the column of water in the long tubing beneath the fluid level in the collection bottle (length A in figure 1), and, as drainage accumulates, the force necessary to expel the pleural fluid or air will increase as the length of long tubing becomes further submersed. Because of this factor, we routinely use a three-bottle vacuum suction device for all cases of thoracic drainage.

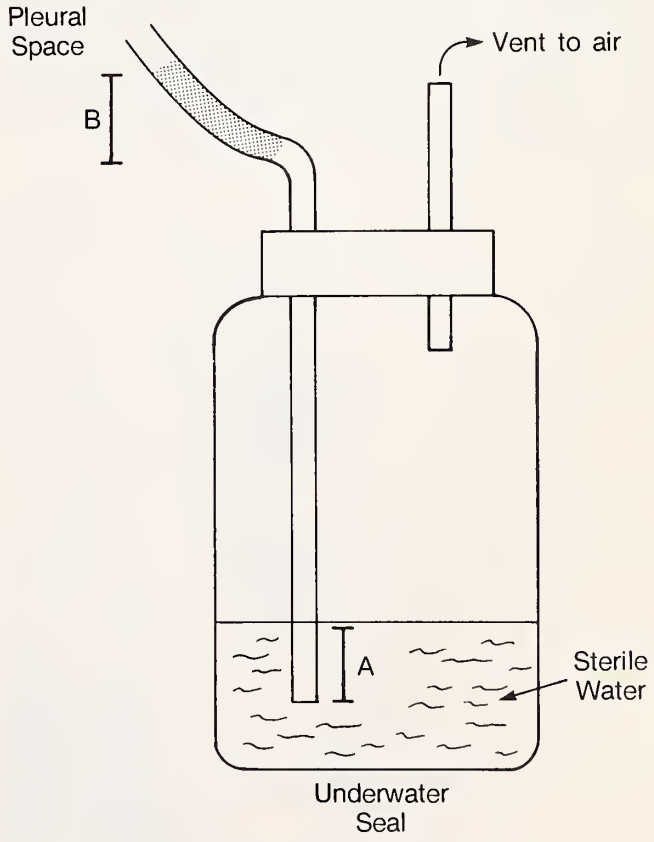


Figure 1. Simple underwater seal apparatus.

From the Department of Surgery, Bowman Gray School of Medicine, Wake Forest University Medical Center, Winston-Salem 27103.

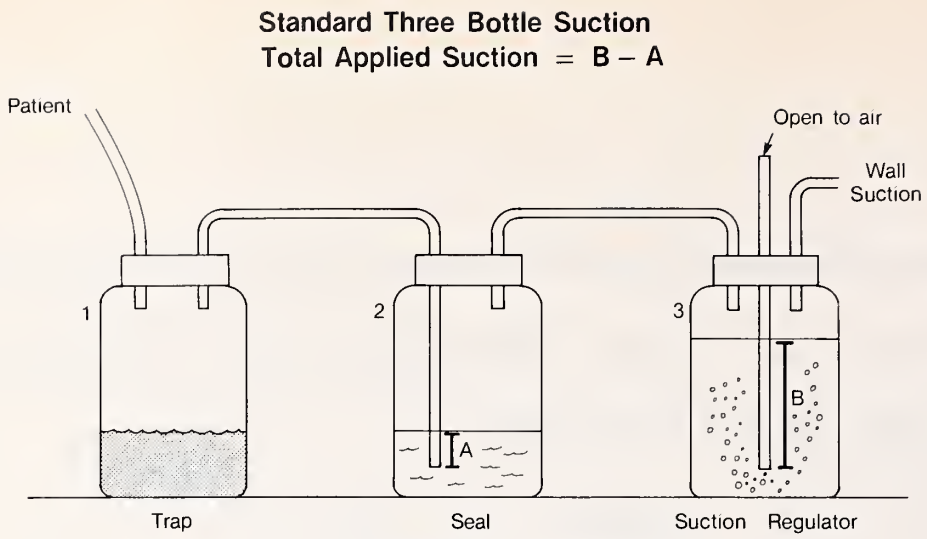


Figure 2. Standard three-bottle suction.

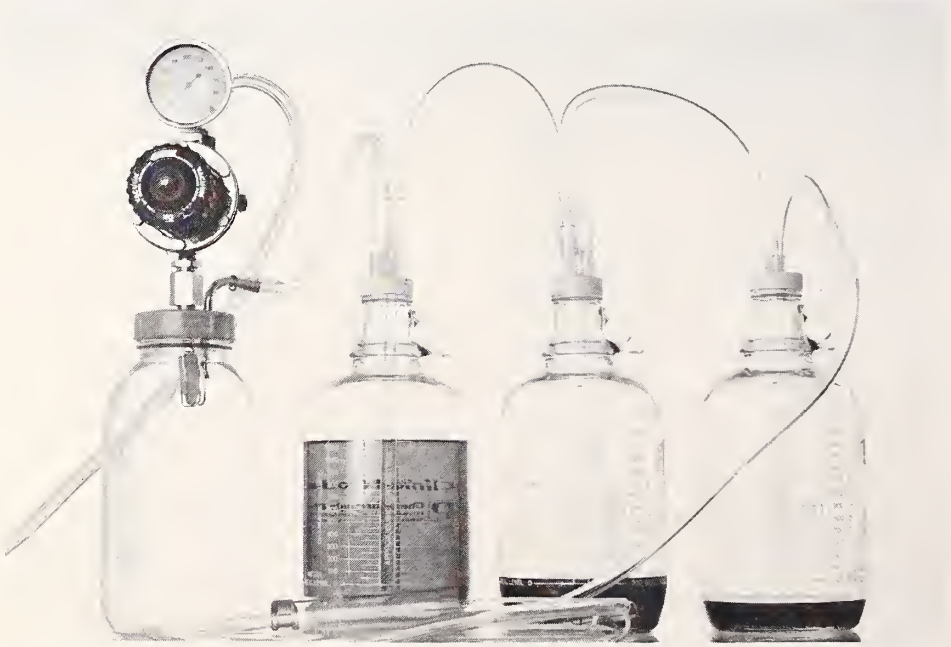
Basic Components

The closed thoracic suction drainage system has three basic components (figure 2): the trap, the water seal, and the suction regulator or water manometer.[4] These provide for closed vacuum aspiration of the pleural space and a flow capacity in excess of any pulmonary air leak.[5] The readily available wall vacuum is used as a negative pressure source with an interposed flow regulator valve (figure 3).

The first bottle in the system is the trap. The trap collects drainage from the pleural space, permitting ease of inspection, quantitation, and sampling in a sterile manner. The trap somewhat simplifies the physics of the system, in that there is no accumulation of fluid in the water seal, and thereby no progressive reduction in the applied intrathoracic pressure. This fact will become more apparent when we view the system as a whole.

The second bottle is the water seal. The seal is necessary to partition the intrathoracic space from the environment and to prevent uncontrolled to-and-fro movement of air with respiration. As long as the tip of the long tubing is beneath the water level (usually for a length of 1.5 to 3 cm; length A in figure 2), a seal exists exclusive of leakage around the bottle stoppers, tubing connectors, or chest tube insertion site. As implied earlier, it is important to realize the significance of the length of tubing beneath the water seal. The negative pressure applied to the intrathoracic space by this system will be diminished (in cm H_2O) by the length of tubing (length A) beneath the fluid level. It is also important to note that this bottle is useful in any assessment of continued air leak and of proper tube positioning as described below.

The third bottle in the system is the suction regulator, or water manometer (figure 2). This bottle is almost completely


Figure 3. Standard three-bottle suction apparatus with suction regulator valve.

Four Bottle Method to Increase Applied Suction
Total Applied Suction = B + B′ − A

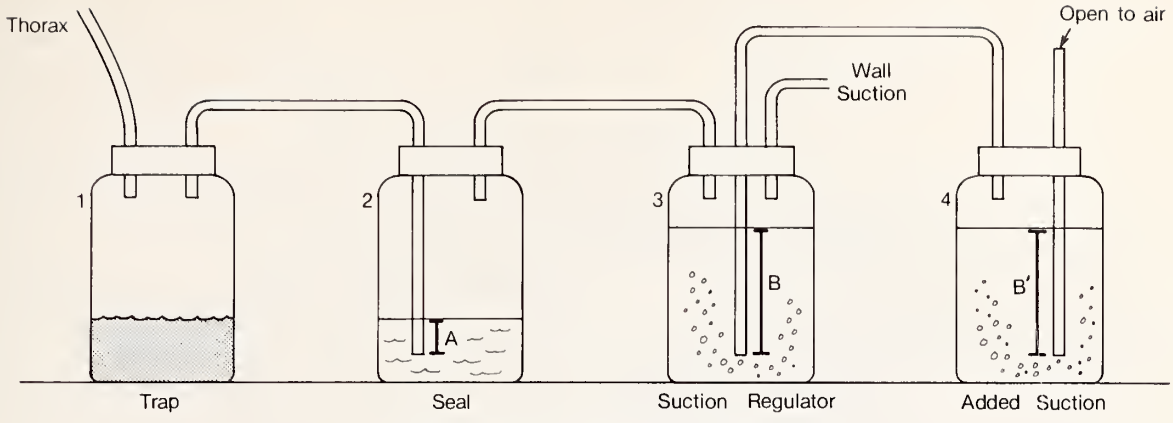


Figure 4. Four-bottle suction system.

filled with sterile water. The two short tubes above the water level conduct the vacuum, but the long tube is the true vacuum regulator or manometer. The long tube is open to the atmosphere. The negative pressure generated by the system and applied to the pleural space is determined by the extent of long tube beneath the air-water interface (distance B in figure 2). More, or less, suction is generated by lowering, or raising, this tube. The total amount of negative pressure applied by the system, then, is B (bottle 3) minus A (bottle 2).

Putting the three bottles in series with a properly placed chest tube and connecting them, as illustrated, to a high vacuum source via a flow regulator valve (figure 3) constitutes a closed pleural suction apparatus. With vacuum applied, bubbling occurs in the third bottle. The vigorousness of the bubbling is controlled by the flow regulator valve, which thus governs the rate of gas flow in the system. The importance and implications of high flow in such a system have been well documented.[6] Basically, flow must be sufficient to cause no impedance to the movement of gas or liquid from the pleural space.

In inspecting the system it is again necessary to appreciate that the amount of negative pressure generated intrathoracically is determined by the level of the water manometer (length B in figure 2). Any attempt to increase the negative pressure generated by the system requires lengthening the manometer as described by Roe[5] or adding a bottle or bottles connected into the system as depicted in figure 4. With a fourth bottle added, the total negative pressure applied to the thorax equals B + B′ - A. The most common error made by the infrequent users of closed thoracic drainage is the incorrect placement of additional bottles for increasing this intrapleural negative pressure. Therefore, figure 4 should be studied carefully. If a Pleur-evac® or similar manufactured system is being used, increased negative pressure above that obtainable with water alone can be generated by the addition of 1 to 2 cm of liquid mercury to the bubble chamber (figure 5, next page). The effect will be to increase the suction generated, and the amount may be estimated by taking into account the fact that 1 cm of mercury is equivalent to 13.6 cm of water.

Applications

An understanding of the closed thoracic drainage system and of the factors that diminish its effectiveness will improve its application in clinical practice.

First, it must be recognized that any dependent fluid-filled loops of tubing oppose the suction created by the regulator.[7] Thus, the tubing should not hang haphazardly from the bedside, but should be positioned alongside the bed in a horizontal plane leading to the drainage collector.

Second, as would be expected, any air leak diminishes the negative force applied. All stoppers and tubing connectors must be sealed, and the site of exit of the tube from the patient's chest wall must be made air-tight through the use of occlusive dressings, purse string sutures, or both. If the system itself is leak-free, any continued pleural air leak can be assessed by examining the water seal bottle with the suction disconnected: any bubbling in the second bottle (the water seal in figure 2) with respiration is a positive sign of continued pulmonary air leak.

Third, the level of fluid in the water seal tube (as well as any slugs of fluid in the tubing) should gently rise and fall with respiration. Absence of such "tidal flow" suggests malpositioning of the tube outside the pleural cavity or occlusion of the tube with a fibrin clot.

Fourth, the manufactured systems (e.g., Pleur-evac®), although altered in form, work on the same principle and function in the same way. Choosing which system to use is a matter of personal preference and price. In our hospital the three-bottle system costs $34 less than any of the manufactured systems.

Finally, an air leak, with or without pneumothorax, may continue despite all efforts to correct it. In this instance, a

Manufactured Suction Apparatus

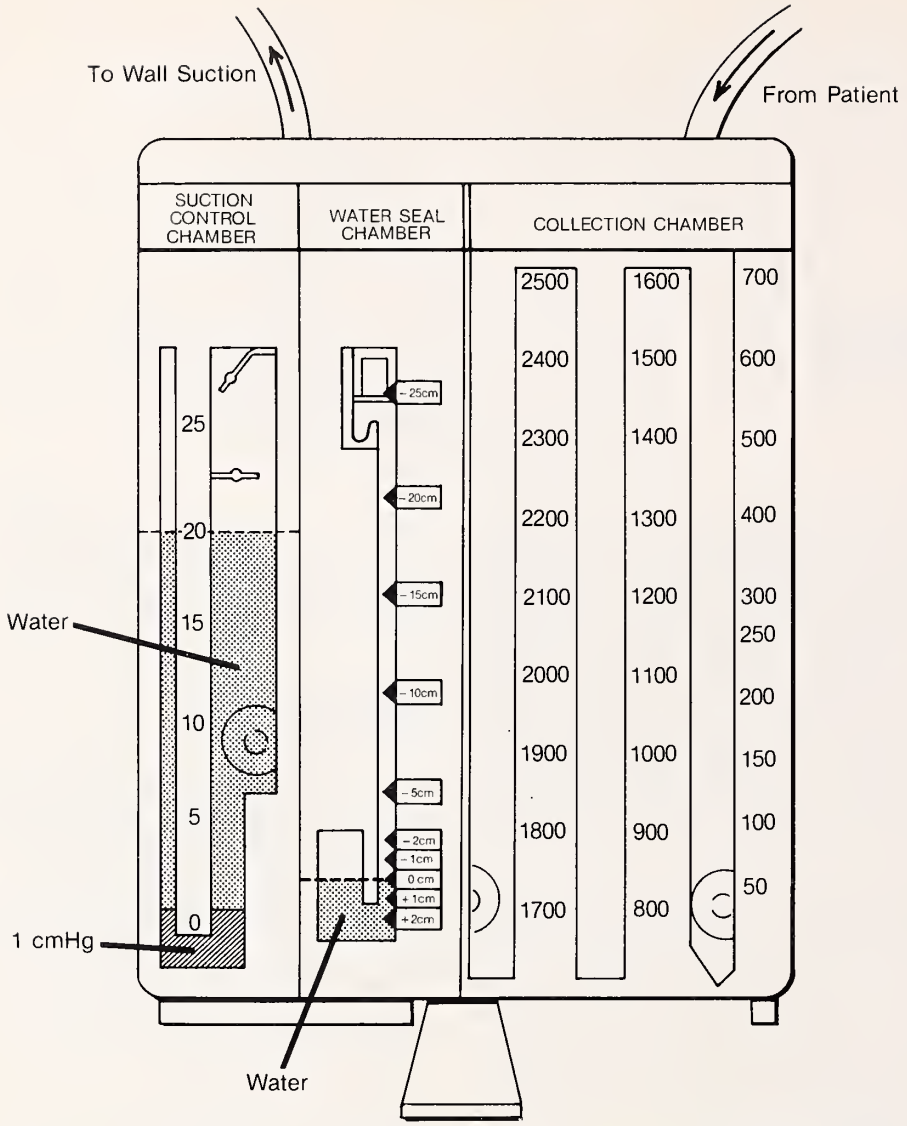


Figure 5. Disposable system containing 1 cm of liquid mercury (Hg) in suction control chamber to increase intrapleural suction.

bronchopleural fistula is often the problem. A fistula located in the peripheral airways can often be closed by placing a Heimlich valve (figure 6) on the chest tube in place of any suction apparatus. This one-way valve permits the egress of air or fluid while preventing pneumothorax. With this device in place, the patient is mobilized and, in fact, can be discharged with the chest tube/valve in place for follow-up as an outpatient. Before the tube is removed, it is appropriate to obtain a chest roentgenogram with the tube clamped, to rule out the development of pneumothorax.

Heimlich Valve

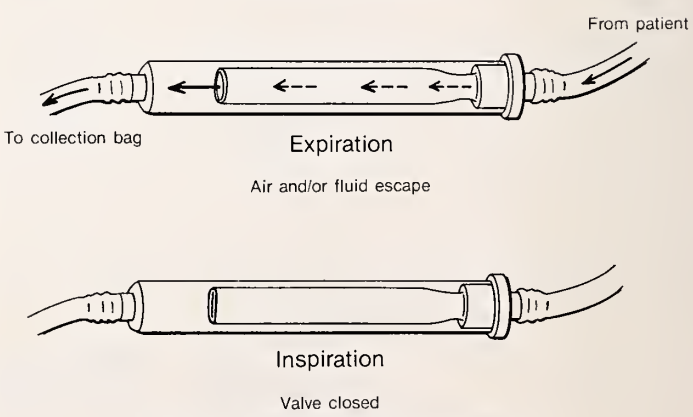


Figure 6. Standard Heimlich valve.

Removal of the System

An important consideration in the management of thoracic drainage is when to remove the tube from the pleural space. When a tube placed for fluid or empyema drains less than

75 ml/24 hours and the chest roentgenogram shows no significant accumulation of fluid, the tube usually can be removed. When a tube is placed for pneumothorax alone, after an adequate period of applied suction (two to four days) it should be placed on water seal (i.e., the suction should be discontinued) for 24 hours. A chest roentgenogram showing no pneumothorax, combined with the absence of air bubbles in the water seal bottle when the patient is asked to cough deeply (indicating the absence of air leak at the bedside), is sufficient indication that the tube may be removed safely.

Some clinicians prefer to clamp the chest tube near the thorax and to obtain a chest roentgenogram to exclude the development of pneumothorax before removing the tube. We do not use this method except when using a chest tube with a Heimlich valve for chronic drainage. There is some danger of tension pneumothorax developing after clamping. We instruct our personnel never to clamp a chest tube, especially when a patient is being transported or moved about, since it is much safer for gas or fluid to be expelled freely from the chest through a water seal than to be trapped within the chest by a "clamped" chest tube.

In conclusion, caring for the critically ill patient requires an understanding of the information provided by complex monitoring devices and of advanced therapeutics. A less complicated but frequently used device that all team members should be familiar with is closed thoracic drainage with applied suction. It was our goal in this article to describe the components of that system and emphasize some of the aspects of its clinical application. ■

References

1 Hewett FC. Thoracentesis: the plan of continuous aspiration. Brit Med J 1876;1:317.

2 Kenyon JH. A preliminary report of a method of treatment of empyema in young children. Medical Record 1911;80:816-7.

3 Lilienthal H. Resection of lung for suppurative infections. Ann Surg 1922;75:257-320.

4 Fishman NH. Thoracic drainage: a manual of procedures. Chicago: Year Book Medical Publishers, Inc., 1983.

5 Roe BB. Physiologic principles of drainage of the pleural space. With special reference to high flow, high vacuum suction. Am J surg 1958;96:246-51.

6 Enerson DM, McIntyre J. A comparative study of the physiology and physics of pleural drainage systems. J Thorac Cardiovasc Surg 1966;52:40-6.

7 Batchelder TL, Morris KA. Critical factors in determining adequate pleural drainage in both the operated and nonoperated chest. Am Surg 1962;28:296-302.

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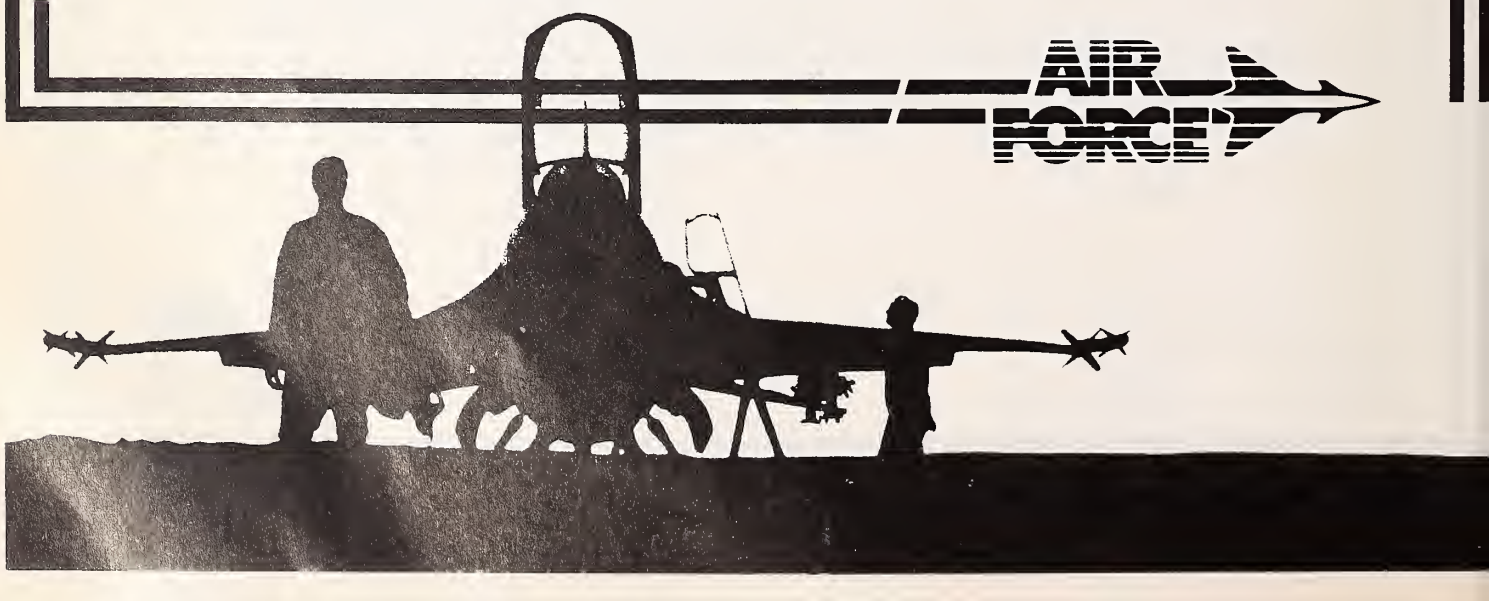
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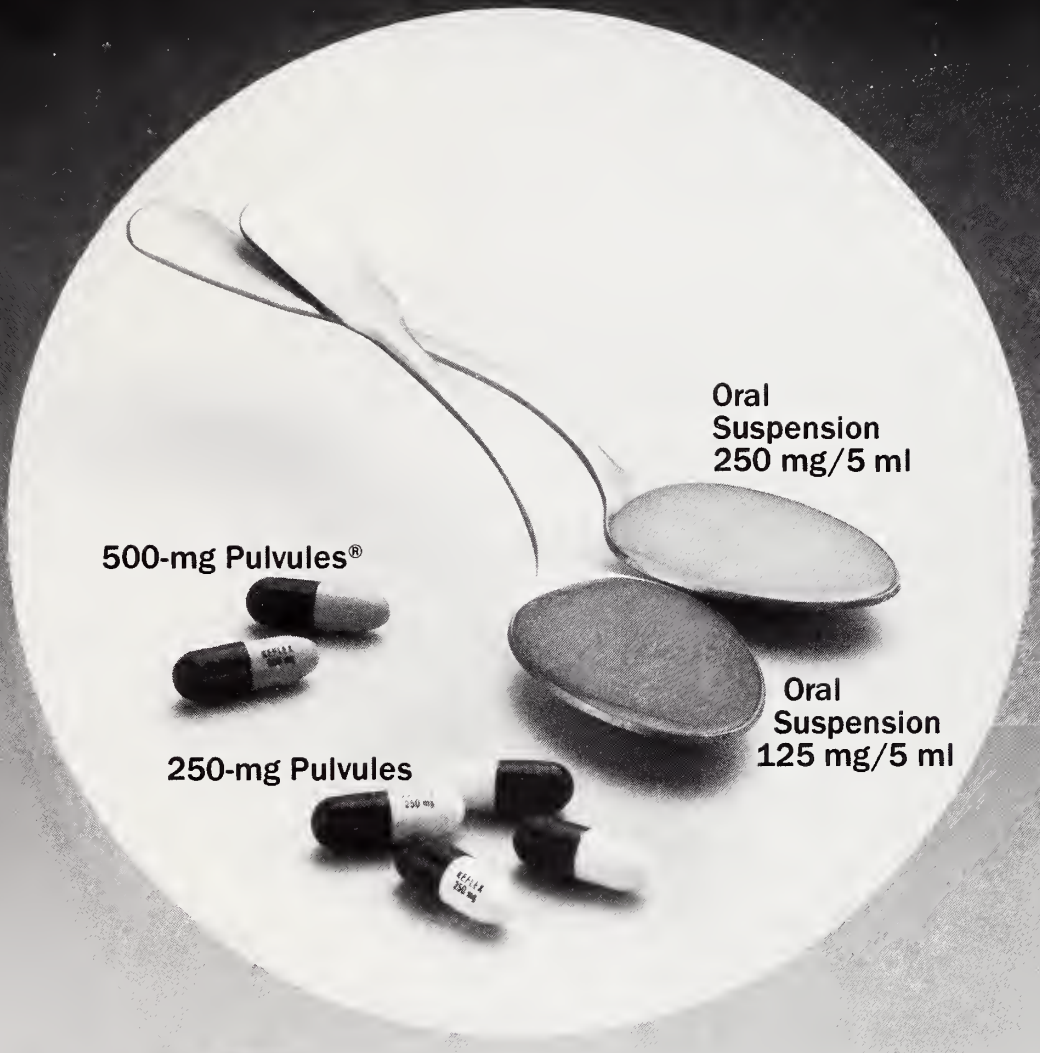
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Reference:
1. Sachs R, Frank M, Fishman SK: Overview of clinical experience with glipizide. In *Glipizide: A Worldwide Review*. Princeton, NJ, Excerpta Medica, 1984, pp 163-172.

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Brief Summary of Prescribing Information

INDICATIONS AND USAGE: GLUCOTROL is indicated as an adjunct to diet for the control of hyperglycemia in patients with non-insulin-dependent diabetes mellitus (NIDDM, type II) after an adequate trial of dietary therapy has proved unsatisfactory.

CONTRAINDICATIONS: GLUCOTROL is contraindicated in patients with known hypersensitivity to the drug or with diabetic ketoacidosis, with or without coma, which should be treated with insulin.

SPECIAL WARNING ON INCREASED RISK OF CARDIOVASCULAR MORTALITY: The administration of oral hypoglycemic drugs has been reported to be associated with increased cardiovascular mortality as compared to treatment with diet alone or diet plus insulin. This warning is based on the study conducted by the University Group Diabetes Program (UGDP), a long-term prospective clinical trial designed to evaluate the effectiveness of glucose-lowering drugs in preventing or delaying vascular complications in patients with non-insulin-dependent diabetes. The study involved 823 patients who were randomly assigned to one of four treatment groups (*Diabetes*, 19, supp. 2:747-83D, 1970).

UGDP reported that patients treated for 5 to 8 years with diet plus a fixed dose of tolbutamide (1.5 grams per day) had a rate of cardiovascular mortality approximately 2-1/2 times that of patients treated with diet alone. A significant increase in total mortality was not observed, but the use of tolbutamide was discontinued based on the increase in cardiovascular mortality, thus limiting the opportunity for the study to show an increase in overall mortality. Despite controversy regarding the interpretation of these results, the findings of the UGDP study provide an adequate basis for this warning. The patient should be informed of the potential risks and advantages of GLUCOTROL and of alternative modes of therapy.

Although only one drug in the sulfonylurea class (tolbutamide) was included in this study, it is prudent from a safety standpoint to consider that this warning may also apply to other oral hypoglycemic drugs in this class, in view of their close similarities in mode of action and chemical structure.

PRECAUTIONS: Renal and Hepatic Disease: The metabolism and excretion of GLUCOTROL may be slowed in patients with impaired renal and/or hepatic function. Hypoglycemia may be prolonged in such patients should it occur.

Hypoglycemia: All sulfonylureas are capable of producing severe hypoglycemia. Proper patient selection, dosage, and instructions are important to avoid hypoglycemia. Renal or hepatic insufficiency may increase the risk of hypoglycemic reactions. Elderly, debilitated or malnourished patients and those with adrenal or pituitary insufficiency are particularly susceptible to the hypoglycemic action of glucose-lowering drugs. Hypoglycemia may be difficult to recognize in the elderly or people taking beta-adrenergic blocking drugs. Hypoglycemia is more likely to occur when caloric intake is deficient, after severe or prolonged exercise, when alcohol is ingested, or when more than one glucose-lowering drug is used.

Loss of Control of Blood Glucose: A loss of control may occur in diabetic patients exposed to stress such as fever, trauma, infection or surgery. It may then be necessary to discontinue GLUCOTROL and administer insulin.

Laboratory Tests: Blood and urine glucose should be monitored periodically. Measurement of glycosylated hemoglobin may be useful.

Information for Patients: Patients should be informed of the potential risks and advantages of GLUCOTROL, of alternative modes of therapy, as well as the importance of adhering to dietary instructions, of a regular exercise program, and of regular testing of urine and/or blood glucose. The risks of hypoglycemia, its symptoms and treatment, and conditions that predispose to its development should be explained to patients and responsible family members. Primary and secondary failure should also be explained.

Drug Interactions: The hypoglycemic action of sulfonylureas may be potentiated by certain drugs including nonsteroidal anti-inflammatory agents and other drugs that are highly protein bound, salicylates, sulfonamides, chloramphenicol, probenecid, coumarins, monoamine oxidase inhibitors, and beta adrenergic blocking agents. *In vitro* studies indicate that GLUCOTROL binds differently than tolbutamide and does not interact with salicylate or dicumarol. However, caution must be exercised in extrapolating these findings to a clinical situation. Certain drugs tend to produce hyperglycemia and may lead to loss of control, including the thiazides and other diuretics, corticosteroids, phenothiazines, thyroid products, estrogens, oral contraceptives, phenytoin, nicotinic acid, sympathomimetics, calcium channel blocking drugs, and isoniazid. A potential interaction between oral miconazole and oral hypoglycemic agents leading to severe hypoglycemia has been reported. Whether this interaction also occurs with the intravenous, topical, or vaginal preparations of miconazole is not known.

Carcinogenesis, Mutagenesis, Impairment of Fertility: A 20-month study in rats and an 18-month study in mice at doses up to 75 times the maximum human dose revealed no evidence of drug-related carcinogenicity. Bacterial and *in vivo* mutagenicity tests were uniformly negative. Studies in rats of both sexes at doses up to 75 times the human dose showed no effects on fertility.

Pregnancy: Pregnancy Category C: GLUCOTROL (glipizide) was found to be mildly fetotoxic in rat reproductive studies at all dose levels (5-50 mg/kg). This fetotoxicity has been similarly noted with other sulfonylureas, such as tolbutamide and tolazamide. The effect is perinatal and believed to be directly related to the pharmacologic (hypoglycemic) action of GLUCOTROL. In studies in rats and rabbits no teratogenic effects were found. There are no adequate and well controlled studies in pregnant women. GLUCOTROL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Because recent information suggests that abnormal blood glucose levels during pregnancy are associated with a higher incidence of congenital abnormalities, many experts recommend that insulin be used during pregnancy to maintain blood glucose levels as close to normal as possible.

Nonteratogenic Effects: Prolonged severe hypoglycemia has been reported in neonates born to mothers who were receiving a sulfonylurea drug at the time of delivery. This has been reported more frequently with the use of agents with prolonged half-lives. GLUCOTROL should be discontinued at least one month before the expected delivery date.

Nursing Mothers: Since some sulfonylurea drugs are known to be excreted in human milk, insulin therapy should be considered if nursing is to be continued.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS: In controlled studies, the frequency of serious adverse reactions reported was very low. Of 702 patients, 11.8% reported adverse reactions and in only 1.5% was GLUCOTROL discontinued.

Hypoglycemia: See PRECAUTIONS and OVERDOSAGE sections.

Gastrointestinal: Gastrointestinal disturbances, the most common, were reported with the following approximate incidence: nausea and diarrhea, one in 70; constipation and gastralgia, one in 100. They appear to be dose-related and may disappear on division or reduction of dosage. Chloestatic jaundice may occur rarely with sulfonylureas' GLUCOTROL should be discontinued if this occurs.

Dermatologic: Allergic skin reactions including erythema, morbilliform or maculopapular eruptions, urticaria, pruritus, and eczema have been reported in about one in 70 patients. These may be transient and may disappear despite continued use of GLUCOTROL; if skin reactions persist, the drug should be discontinued. Porphyria cutanea tarda and photosensitivity reactions have been reported with sulfonylureas.

Hematologic: Leukopenia, agranulocytosis, thrombocytopenia, hemolytic anemia, aplastic anemia, and pancytopenia have been reported with sulfonylureas.

Metabolic: Hepatic porphyria and disulfiram-like alcohol reactions have been reported with sulfonylureas. Clinical experience to date has shown that GLUCOTROL has an extremely low incidence of disulfiram-like reactions.

Endocrine Reactions: Cases of hyponatremia and the syndrome of inappropriate antidiuretic hormone (SIADH) secretion have been reported with this and other sulfonylureas.

Miscellaneous: Dizziness, drowsiness, and headache have been reported in about one in fifty patients treated with GLUCOTROL. They are usually transient and seldom require discontinuance of therapy.

OVERDOSAGE: Overdosage of sulfonylureas including GLUCOTROL can produce hypoglycemia. If hypoglycemic coma is diagnosed or suspected, the patient should be given a rapid intravenous injection of concentrated (50%) glucose solution. This should be followed by a continuous infusion of a more dilute (10%) glucose solution at a rate that will maintain the blood glucose at a level above 100 mg/dL. Patients should be closely monitored for a minimum of 24 to 48 hours since hypoglycemia may recur after apparent clinical recovery. Clearance of GLUCOTROL from plasma would be prolonged in persons with liver disease. Because of the extensive protein binding of GLUCOTROL (glipizide), dialysis is unlikely to be of benefit.

DOSAGE AND ADMINISTRATION: There is no fixed dosage regimen for the management of diabetes mellitus with GLUCOTROL; in general, it should be given approximately 30 minutes before a meal to achieve the greatest reduction in postprandial hyperglycemia.

Initial Dose: The recommended starting dose is 5 mg before breakfast. Geriatric patients or those with liver disease may be started on 2.5 mg. Dosage adjustments should ordinarily be in increments of 2.5-5 mg, as determined by blood glucose response. At least several days should elapse between titration steps.

Maximum Dose: The maximum recommended total daily dose is 40 mg.

Maintenance: Some patients may be effectively controlled on a once-a-day regimen, while others show better response with divided dosing. Total daily doses above 15 mg should ordinarily be divided.

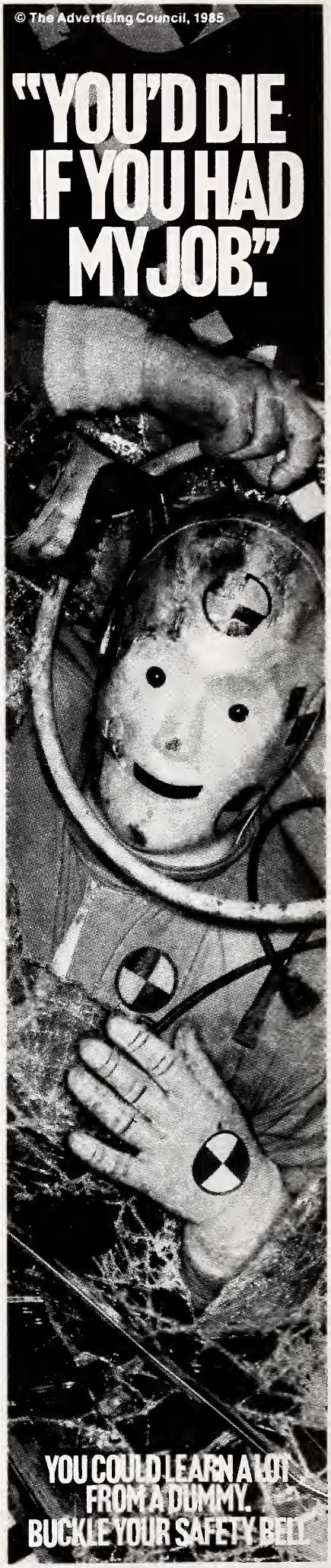
HOW SUPPLIED: GLUCOTROL is available as white, dye-free, scored diamond-shaped tablets imprinted as follows: 5 mg tablet—Pfizer 411 (NOC 5 mg 0049-4110-66) Bottles of 100; 10 mg tablet—Pfizer 412 (NOC 10 mg 0049-4120-65) Bottles of 100.

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A Boy (a Bleeder) and a Bloody Revolution

E. Wayne Massey, M.D., and Janice Massey, M.D.

Hemophilia-induced femoral neuropathy led to leg paralysis and the paralysis of a government.

Tsarina Alexandra and Tsar Nicholas (figures 1 and 2, next page) were the last royal rulers of Russia. Their youngest child and only son, Alexis, was found to be afflicted with hemophilia. The retroperitoneal bleeding and femoral neuropathy caused by this disorder changed the course of Russian history.

In September 1912, the Russian royal family was vacationing in Poland, then under Russian rule, at Spala, the ancient hunting ground of kings. They were a cheerful, healthy family, completely oblivious of the turmoil brewing throughout Russia. With the Tsar and Tsarina were their five children: Olga, age 17, Tatiana, age 15, Marie, age 13, Anastasia, age 11, and Crown Prince Alexis, age 8, the Tsarevich and heir to the throne (figures 1 and 2).

The family was puzzled when Alexis began to appear ill over several days and finally was forced to take to his bed, pale and weak. No one could explain the malady. In an attempt to cheer up the young prince, Alexandra took him for a drive. At first Alexis seemed to respond, but after riding only a short distance he began to complain of pain in his left leg and lower abdomen. They turned back, but by then every slight jolt of the carriage caused the boy to cry out with pain.

Doctor Eugene Botkin, personal physician to the royal family, examined Alexis and found a large hematoma over the medial thigh and groin. The dreaded hemophilia was suspected, especially in light of the well-known history of the disease in the royal family.[1]

The most eminent physicians of Russia were summoned to the bedside of the young prince, including Doctors Rauchfess and Federov, both surgeons; Doctor Ostrogorsky, personal pediatrician to the royal children; and Doctor Vladimir Derevenko, personal physician to Crown Prince Alexis.[2] They examined Alexis again and again and spent hours in conference, searching for an effective remedy. None of their treatments worked. The hemorrhage continued until the thigh was drawn up against the chest with the hip flexed and externally rotated. The limb could not be extended because of the agony that ensued.

For eleven days the Tsarina did not leave the child's bedside. Alexis lay semiconscious and groaning, delirious when aroused, and screaming as the increasingly frequent spasms of pain racked his frail body. As the days wore on, the exhausted child's screams changed to the painful plea, "Mama, help me. Won't you help me?"[3]

The situation seemed hopeless. Both the child and his parents were sure that death was near. Little Alexis was heard to say, "When I am dead it will not hurt anymore, will it Mama?" And, "When I am dead, build me a little monument of stones in the woods."[3]

At first, the Tsar tried to conceal the crown prince's serious condition, but as death became more imminent and rumors more widespread, official bulletins were issued. At the news of Alexis's illness, the people of Russia, rich and poor alike, flocked to their churches to pray. Every church had special services. At the Cathedral of Our Lady of Kazan in St. Petersburg, the prayer vigil continued 24 hours a day. A tent was raised at Spala where there was no church, and Vassiliev, the priest, conducted a *Te Deum* daily.

Despite all of this, Alexis's condition still grew worse until one night he was so pale and weak that it appeared the end was near. The priest was summoned, and the child received the last sacrament. The notice went to St. Peters-

From the Department of Medicine, Division of Neurology, Duke University Medical Center, Durham 27710.

burg to prepare the final bulletin which would announce the death of the Tsarevich.

In the midst of preparations for the child's death, Tsarina Alexandra sent a telegram to a holy man, the starets Gregory Rasputin, a strange and mystical Siberian peasant reputed to be a man of God with powers of prophecy and healing (figure 3, facing page). The Tsarina entreated him to pray for Alexis's life. Rasputin immediately responded, "God has seen your tears and heard your prayers. Do not grieve. The Little One will not die. Do not allow the doctors to bother him too much."[4] Two days later the hemorrhage had stopped, the pain had gone, and the fever had abated. Alexis slept peacefully for the first time in weeks. He was alive.

Alexandra became a devotee of Rasputin, certain that he had miraculously saved her son when everyone else had failed. From that time on, Rasputin's influence on the royal family, through the Tsarina, was firmly established.

Until his assassination on New Year's Eve, 1916, Rasputin wielded great power. By that time he had used his influence to dictate appointments to every important government and church position in Russia. The most far-reaching consequence of his influence was in Tsar Nicholas's handling of domestic unrest. The Tsar was so mesmerized by Rasputin that he failed to respond to the terrible plight of the Russian people, setting the stage for the 1917 revolution that changed the course of history for Russia and for the world.

There is little doubt that Alexis suffered from the syndrome of femoral neuropathy due to retroperitoneal bleeding. The manifestations were classic: the flexed and externally rotated hip and the characteristic pain. All of this clearly indicated femoral nerve and psoas involvement. In fact, Alexis was in braces for almost a year before his hip was finally fully extended. In a picture taken shortly after the events at Spala, the flexion and external rotation of the left hip are evident, even in the braces — a clear consequence of the unchecked and prolonged bleeding (figure 4, facing page).

Rasputin's advice that the doctors leave the child alone



Figure 1. Tsarina Alexandra with Crown Prince Alexis.[2]



Figure 2. Tsar Nicholas holding Crown Prince Alexis.[2]

was medically sound. Once the doctors stopped their constant poking, probing and examination, a small but adequate clot could form without being dislodged.

Retroperitoneal bleeding with resultant femoral neuropathy is a consequence of anticoagulant therapy or of hemophilia. In this earlier era it was a matter of the gravest and most widespread political significance. It was an important factor in a turn of history that led eventually to the overthrow of the tsarist regime and to the ascendency of communism in Russia. ■

References

1 Iltis H. Hemophilia, "the royal disease" and the British royal family. J of Heredity 1948; 39:113-6.

2 Massie RK. Nicholas and Alexandra. New York: Atheneum, 1968, pp.139-363.

3 Gilliard P. Thirteen years at the Russian court. New York: Arno Press and the New York Times, 1970, pp. 30-2, 59-65, 81-7.

4 Cowles V. The last tsar and tsarina. London: Morrison and Gibb, 1977, p. 128.

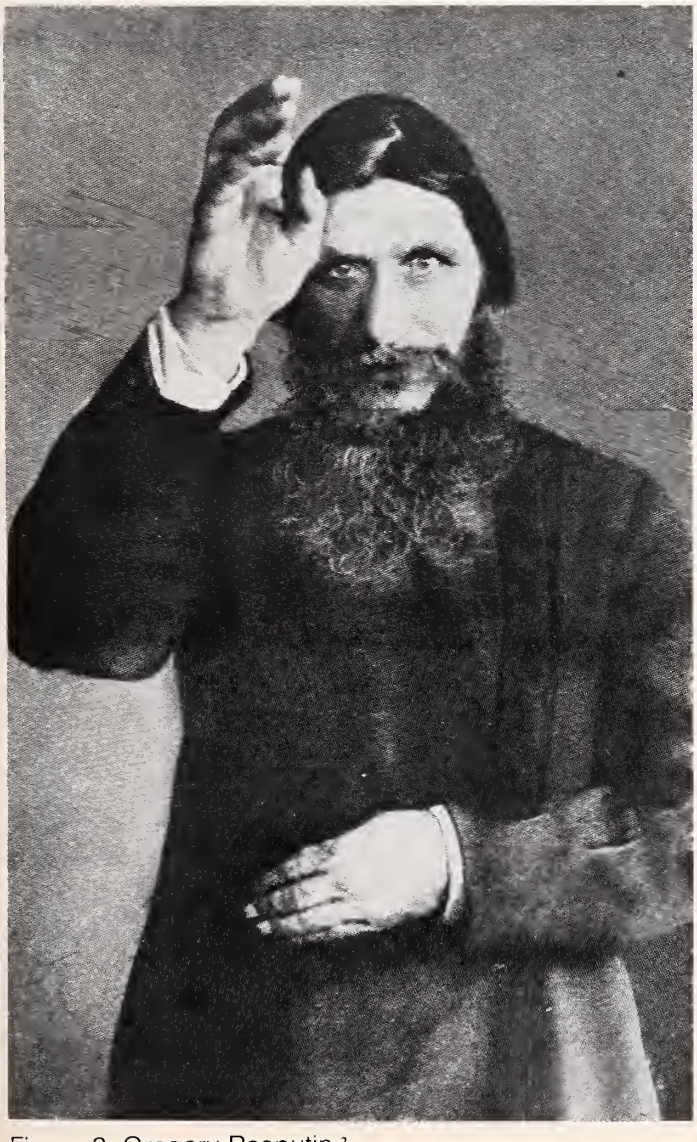


Figure 3. Gregory Rasputin.[2]

Figure 4. Tsarevich Alexis, after Spala. Left leg is held with hip flexed and externally rotated despite heavy metal brace.[2]





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*Caution: If perforation of the eardrum exists, specify Cortisporin Otic *Suspension* (this drug should be used with care in cases of perforated eardrum).

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NORTH CAROLINA MEDICAL JOURNAL

For Patients

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The Duke University School of Medicine

WILBURT C. DAVISON, M.D., A.M., F.A.C.P.,
Dean of the Medical Department of Duke University from 1927 to 1960

Editor's Note: Parents know that a child develops in an unpredictable way. A pediatrician is even more aware of this fact. Dean Davison in 1927 predicted how Duke would develop and published the prediction in *Transactions* of the North Carolina Medical Society. We reproduce the late dean's scenario with comments from three leading medical educators on what was fancy and what was reality.

Mr. President, Ladies and Gentlemen:

I wish to express my pleasure for this invitation to address you and for the opportunity to present the plans of the new medical school. There are at least six factors which are essential for the success of a medical school — the buildings, the staff, the students, the type of teaching, the service to the community and last, but not least, the cooperation of the members of the profession in the State. It is the great desire of everyone connected with Duke University so to carry out the plans for the first five of these essentials that the sixth one, namely, your cooperation, will be merited. We all wish you to regard this school as yours. Any suggestions which will increase the service of this school to the State will be more than welcomed, for service is to be the keystone of the arch of this structure. These plans are in the tentative stage at present so I hope that you will not hesitate to point out anything which should be changed, for only by working together can this school fill the place which Mr. Duke intended.

Delivered at the 1927 Annual Session of the North Carolina Medical Society and published in its *Transactions* that year. Thanks go to Dr. J. B. (Ben) Warren of New Bern, who called this piece to our attention and was kind enough to send us a copy of it.

(1) The *buildings* follow the same general arrangement as those at Nashville, Rochester, N.Y., and Chicago. The basic idea has been to group the various preclinical and clinical departments so that as much correlation as possible can be obtained. Physiology and biochemistry have an intimate relationship to internal medicine, and pathology is closely associated with surgery. The X-ray department has been placed as nearly as possible equidistant from the out-patient department, medicine and surgery. Another valuable feature is the proximity to the medical school of the University departments of the basic sciences, chemistry, biology and physics. It is expected that the buildings will be ready for occupancy before Sep-

tember, 1929, and that first and third year classes can start at that time.

(2) The *staff* will be appointed by the Trustees as soon as the building program has made sufficient progress. In the recommendations for appointments, all of us here have an interest, for the personnel is of more importance than the stone and mortar. Information is now being collected in regard to the leaders of the various branches and suggestions are welcome. If most of the data obtained indicate that a certain man is the most desirable he will be asked to consider the appointment. If his answer is favorable, he will be invited to Durham to meet the officers of the University, the officers of the North Carolina Medical Society and other members of the profession in the State. We all feel it to be essential not only that the head of any department should be a leader in his own field, but also that he must be a man who will have the confidence and cooperation of the physicians and surgeons of the State. The heads of these departments will be on what is known as a "full time basis." They will be given adequate salaries and will not engage in private outside practice. There are many arguments in favor of and against this system, which I shall not enumerate, but shall merely mention two advantages; first, that the head of the department will be able to give his full time to the care of the patients in the hospital and to the training of students and post-graduates and, second, that he will be removed from competition with the members of the profession. There will probably be private patients whom you may wish to refer to the Professor of Medicine or Surgery for consultation or operation, and I hope that there will be, in order that this school can be of the greatest service, but all fees collected for private patients will go to the medical school and no private patient will be seen who is not referred by his or her own physician. It is hoped that physicians and surgeons in practice in the vicinity of Durham will accept part time appointments at the medical school and hospital, to assist in the care of patients and the teaching of students.

(3) The *students* will be limited to fifty in each class. It is possible and probable that for several years the classes may not be filled, for there will be rigid selection for entrance. This statement does not mean that a college degree and a vast number of hours will be required for admission, for I personally feel that two years of college, including one year of biology, one year of physics and two years of chemistry, are adequate preparation. It has been demonstrated that fewer failures occur in medical schools if the entering students are carefully selected on the basis of the quality of their preparation rather than on its quantity.[1] The actual requirements will not be decided until after the staff has been appointed but I trust that the basis of selection will be the candidate's intelligence and character instead of the length of his preparation. There is no doubt that a long preparation for the study of medicine has many advantages but the average age of twenty-six years at which the present medical students graduate is such a handicap to their post-graduate training as to require serious consideration to be directed toward condensation of their preliminary preparation. The same idea is behind the proposal that five terms of nine weeks will be given each year, commencing September first, with vacations of one week each in December, March and May, and of one month in August, and that the degree of M.D., will be granted after the satisfactory completion of fifteen terms. These may be taken consecutively (graduation in three calendar years), or four terms may be taken each year (graduation in four calendar years). Such a curriculum would in no way affect the courses at any other medical school. If the students who have received their first two years of training at Wake Forest or Chapel Hill wish to spend their clinical years at Durham, they can enter the eighth term, which would correspond to the third class, on June first or September first. It is impossible to state whether the faculty will eventually adopt this scheme but I feel that it will maintain the present standards of medical education and at the same time enable students to graduate at an earlier age than is possible at present.

(4) The type of *teaching* has not, of course, been outlined but it may not be out of place to mention some of the factors which must be considered. We hear frequent statements that the curriculum of this school is too theoretical while that of another one is splendidly practical. As a matter of fact, the methods taught in any medical school represent a compromise between the so-called theoretical ones which require a hospital for their accomplishment and the practical methods which can be carried out in general practice without elaborate equipment. The faculty of every medical school wishes to teach its students the most modern methods and also to instil into their minds the additional thought that these methods are not infallible and that better ones will probably be evolved. Everyone realizes that in medical school only the foundation of medical knowledge can be laid and the the student must be given the training to enable him to keep constantly building and adding to the superstructure in accordance with medical progress. However, to produce this "open mind" toward new discoveries is naturally to weaken to a certain extent the students' confidence in our present practical remedies, and the knowledge that

many of the graduates of a school must practice medicine without modern hospital facilities has often caused more emphasis to be laid upon the practical medicine of today than upon the more theoretical possibilities of the future. The presence of so many splendid community hospitals in North and South Carolina will greatly simplify this problem and the medical students here can safely be taught the most modern methods, in addition to their fundamental training, for within a few years the physicians who practice in every county will probably have access to a hospital and its facilities. Formerly, the charge that a curriculum was too theoretical had some basis for the graduates of certain medical schools were often at a loss without hospital connections and as a result they congregated in cities instead of going into the country where they are needed and where their field for service is greater. Consequently, the community hospitals in North and South Carolina, in addition to the service which they are rendering in the care of the sick, are an important factor in medical education; first, by allowing the medical schools to modernize their teaching and second, by causing a redistribution of doctors from the cities, with one doctor to every 600 people, to the country districts with one doctor to every 1200.[2]

The modern medical curriculum is often blamed because more and more doctors are entering specialties and avoiding general practice. "General practice is doomed" is a common statement and the medical schools are held responsible. It is true that seventy-four per cent of the recent graduates of the medical schools throughout this country are specializing or planning to specialize in one or another branch,[3] but is this the fault of the medical school curriculum or of natural economic causes? I personally think it is the latter. In this country the opportunities for service, reputation and monetary reward are at present unquestionably higher in the specialties than in general practice. Consequently the trend has been toward specialization, but even now the tide is turning. Twenty-two per cent of the 1915 graduates became otolaryngologists. At present that field is over-crowded and only fifteen per cent of the 1920 graduates are entering it.[3] On the other hand the opportunities in pediatrics are increasing and we find that while only six per cent of the 1915 graduates in this country became pediatricians, eleven per cent of the 1920 classes are specializing in the diseases of children.[3] Before the War in England the more ambitions men became specialists but during the last few years, because of the greater number of Harley Street consultants, more of the keener men are going into general practice where the rewards are now greater. There have been no changes in the medical school curriculum which are responsible for these trends; they are a response to economic conditions and I feel that we shall soon find in this country that the over-crowding of the specialties will cause an increase in the number of general practitioners — a consummation much to be desired.

(5) The medical school can be of *service to the community* in at least three ways: in the care of patients, in post-graduate instruction, and in assisting the community hospitals.

a) The physical facilities of the wards and out-patient department for the care of patients will be second to none and every effort will be made to provide the best of medical and nursing care, for this is the primary function of the hospital to which everything else is secondary. "Where will the patients for the new medical school come from?" is a frequent question. Many believe that a teaching hospital requires a huge metropolis. However, in 1913, Osler[4] pointed out that a large population was not essential for a medical school and that Marburg in Germany, with twenty-three thousand people — half the size of Durham — maintained a medical school of the first rank. The population of Jena and Heidelberg are very similar to that of Durham and they certainly have no dearth of patients. This statement of Osler's is even more true today because of the tremendous increase in the number of automobiles. For medical schools in large cities, automobiles, by increasing the traffic congestion, have actually reduced the amount of territory from which patients may attend clinics. For instance in New York and Chicago nearly an hour is required to go from the center of the city to the medical schools. On the other hand, with the splendid roads in North Carolina, patients can be brought long distances by automobile in the same time and with more comfort and safety than is possible in traversing a large city. In addition to serving the 43,000 people of Durham, the wards and out-patient departments of the new medical school are thus readily accessible to the half million people who live within a fifty mile radius of the city. In addition, it is hoped that the medical school and hospital will be so conducted as to merit the confidence and cooperation of the staffs of the community hospitals throughout the two states so that patients will be referred to Durham. A large percentage of the most interesting and instructive cases in the hospital with which I am associated at present come from this area and I hope, without reflection upon that institution, that in the future they will prefer Durham to Baltimore.

b) The need for more provision for *post-graduate study* is very acute not only in this country but abroad. There are very few clinics to which a man can go, after he has been in practice several years, to obtain the additional training which he has found he needs. When insulin was first introduced, several institutions, through the kindness of Mr. John D. Rockefeller, Jr., established temporary post-graduate courses to train physicians in the use of this new remedy. The fact that so many doctors availed themselves of this opportunity is witness that

innumerable other courses are desired. It is the plan of the new medical school to attempt to fill this need. If a doctor in North or South Carolina wishes to spend a few days, weeks or months reviewing his knowledge of pediatrics, of obstetrics, of the treatment of syphilis, of studying the efficacy of liver diet in pernicious anemia, or if he has to do an unusual operation and wishes to refresh his memory of the anatomy involved, the facilities and equipment at Durham will be at his disposal. The service of a medical school should not be limited to the training of its own students and staff but should extend to giving the members of the profession of the state the benefit of everything it has. Training in preventive medicine and public health, not only for the students in the medical school, but also special work for those who wish to enter upon a career as health officers will be provided. Another of the functions of the medical school will be the lending of books and journals, for a complete medical library is contemplated. The library was actually started yesterday by the gift from Dr. John E. S. Davidson of Charlotte of a number of old books which he had collected. Old books are very valuable, for it is only by teaching students the history of medicine that they can gain a true conception of it and realize the progress which is constantly occurring.

c) The medical school can also be of service to the community hospitals. The pathological and bacteriological departments can fill a need in the diagnosis of sections and cultures, the school of nursing can provide special training in obstetrics, pediatrics and other branches for the nurses of the smaller hospitals who desire it.

These are merely a few examples of the innuumerable ways in which the school can be of service to the state, and in closing I should like to emphasize again the hope that you will make suggestions so that these plans will merit and receive your cooperation. The word Service is to be carved into the corner stone. ■

References

1 Wycoff J. Relation of collegiate to medical student scholarship. Bull Assoc Amer Med Coll 1927;2:1-16.
Davison WC. The selection of medical students. South Med Jour 1927;20 (in press).
2 Rankin WS. The needs of rural medicine in the Carolinas. South Med Jour 1927;20:209-14.
3 Weiskotten HG. Present tendencies in medical practice. Bull Assoc Amer Med Coll 1927;2:29-47.
4 Osler W. Oxford — student life and opportunities offered to Rhodes Scholars; Yale Medical School — improvements suggested — new departments and clinics needed. Yale Daily News 1913;36:1-5.

Comment

WILLIAM G. ANLYAN, M.D.

Dr. Davison's remarks were made shortly after his appointment as Dean in 1927. At that point, his plans for Duke Medical School included: (1) recreating the Johns Hopkins model of full-time clinical faculty who would be consultants, but without any significant private patients of their own; and (2) a flexible pre-medical college curriculum — not necessarily more than two years — based on his personal pre-medical-medical school experience which had been extraordinary in quality and unorthodox in quantity. He very correctly pointed out that people are more important than buildings. On the balance of producing generalists vs. specialists, he very carefully pointed out that the "market

Chancellor for Health Affairs, Duke University Medical Center, Durham 27710.

place" for practice was more important than the medical school curriculum — it is still equally true today.

What happened after his 1927 speech? Perhaps the most important uncontrollable event that shaped the future of Duke's clinical services was the Great Depression of 1929. When Dr. Davison recruited Dr. Deryl Hart in 1930 from Johns Hopkins to become the first Chairman of Surgery at Duke, it was apparent that there was not enough university money to recruit a high quality clinical faculty. Dr. Hart proposed and Dr. Davison accepted a plan to establish the Private Diagnostic Clinic as a geographic full-time clinical practice group within the medical faculty. A full professor earning $5,000 a year would receive one half of it from the institution and the other half from the pooled income of the group practice. In the ensuing 56 years the Private Diagnostic Clinic system has worked well to attract and sustain a top-notch clinical faculty as well as to contribute to the development of new programs and facilities for the entire Medical Center. Opening a new four-year medical school at the height of the Great Depression had the obvious long-range benefit of establishing a viable internal system of self-sustenance. We are indebted to the foresight and genius of Davison and Hart. Many other medical schools in the United States have adopted variants of the same plan. ■

Comment

JAMES F. GIFFORD, JR., Ph.D.

"The word Service is to be carved into the corner stone."

The craftsmanship that characterizes any speech reveals its purposes. Choosing "Service" as the theme for his announcement of plans for the Duke University School of Medicine allowed Dr. Davison to pursue several purposes simultaneously. He reminded his audience of James B. Duke's intention in giving; to aid Carolinians in meeting needs, improved health care first among them, otherwise beyond their means. He acknowledged the idealism of those among his listeners who had worked for decades to establish a clinical medical school in North Carolina. He worked to reduce the anxieties of those who feared that the new school would prove too competitive or too powerful a force for change within the context of medical practice in the region. Most important, he invited the physicians of the state to become involved with Duke immediately, shaping it to their purposes even as they supported it by referring the patients that were essential to its future success. Service is at once an empowering and a constraining concept, and Davison drew upon both senses of the word.

In the crafting of his text Dr. Davison revealed his sensitivity to the mixed emotions of a group of professionals passing through a period of significant change. The emergence of hospitals as institutions essential to improving health care not only raised questions concerning what aspiring physicians should be taught but also caused concern among that segment of the profession who feared that they might be denied opportunity to practice in hospitals for want of proper training. Rising numbers of newly-trained specialists seemed to some to call the role of the general practitioner into question, and the majority of North Carolina physicians were general practitioners. Even among the most enthusiastic supporters of the new school, some questioned the wisdom

Associate Professor, Medical History Program, Duke University Medical Center, Durham 27710.

or the desirability of placing the heads of medical departments on full-time salary. By raising these issues in the context of his announcement Dr. Davison allowed his audience to take his measure and, by so doing, created a basis both for personal communication and for professional cooperation.

Time and circumstance have changed the details of Davison's description of Duke. The original buildings, organized for internal efficiency, are now but a corner of a medical campus organized around the three functions of a modern medical center; patient care, teaching and research. The Depression doomed Davison's dream of establishing the faculty on a "full-time basis," but private practice by Duke faculty did not diminish the cooperation he sought with the medical profession of the state. As training has improved, members of the medical profession no longer fear denial of access to hospitals; and Duke medical undergraduates, the number in each class now more than doubled, are taught, as Davison intended, by "the most modern methods." In 1987 new attention is being paid to the importance of small group teaching strategies, which Davison advocated. Most hospitals in North Carolina now do themselves most of the things Davison originally projected as services Duke might offer, and Duke now shares its teaching mission in the state with three other schools. These improvements in the quantity and quality of health care available to Carolinians are in part the product of those who shared Duke's originating mission, and bear witness to the vitality and validity of Dr. Davison's originating vision. ■

Comment

STUART BONDURANT, M.D.

Dean Davison embodied many superlatives, one of which was vision and another was purposeful adaptability. The 1927 paper on "The Duke University School of Medicine" illustrates both, for it contains the conceptual seeds from which Duke grew and which have powerfully influenced American medical education and medical practice, and it also contains evidences of Dean Davison's adaptability. Reading the paper for the first time, I was impressed anew by the scope of the vision which congenially blended science, patient care, and community service with a central theme of education. It was refreshing to see again his clear and unambiguous views on pre-medical education (with which I agreed as a medical student in 1950 and disagree now), on the balance between theory and practice, and on the importance of general practice to which he recruited so enthusiastically throughout his career.

Dean Davison's vision, adumbrated in these pages, resulted in the first modern medical school in North Carolina. All three of the state's other medical schools, as well as the medical profession and the people of the state, have been immensely benefited by the products of this vision. We are also indebted to his remarkable effectiveness in bringing that vision into practice. ■

Dean, The School of Medicine, The University of North Carolina at Chapel Hill, Chapel Hill 27514.

Poetry

BILLY F. ANDREWS, M.D.

The Dean

In memory as in life the Dean, Wilburt C. Davison,
As teacher, physician, mentor, and friend my heart has won.
A giant among men in size and in mind
It is unlikely we again will see his kind.
In Duke Forest where a chapel stood alone,
He built a great medical center of the finest stone.
Destined to gain in medicine an outstanding fame
As Osler prophesied, medicine would never be the same.
Yet true greatness came in his service to children,
Through his magnetic, effervescent personality to stimulate men.
We stand in his shadow, are led by his light,
Our lives to enrichen and to become more bright.
His strength to protect and lead us in medicine's fight
To give to all patients what is best and right.
What a small way to pay him homage and to salute
With these few respectful and loving lines in tribute.

To My Good Doctor Willard C. Goley

What can be the doctor's greatest adversary?
Disease, suffering, death, and mortuary.
His greatest joy and goal is to prevent
Sorrow, pain, and loss of our bodies to rent.
To cure a few, to help many, to comfort all,
This is the good doctor's call.

This poem was written for Willard C. Goley, M.D., who was my family physician and first role model as a physician.

From Department of Pediatrics, University of Louisville School of Medicine, Louisville, KY 40292.

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OFFICIAL CALL
HOUSE OF DELEGATES

HOUSE OF DELEGATES
Meetings Scheduled

Notice to: Delegates, Alternate Delegates, Officials of the North Carolina Medical Society, and Presidents and Secretaries of county medical societies.

Sessions of the HOUSE OF DELEGATES will convene in the Cardinal Ballroom, Pinehurst Hotel, Pinehurst, North Carolina, at the following times:

Thursday, April 30, 1987 — 9:30 a.m. — Opening Session
Saturday, May 2, 1987 — 2:00 p.m. — Second Session

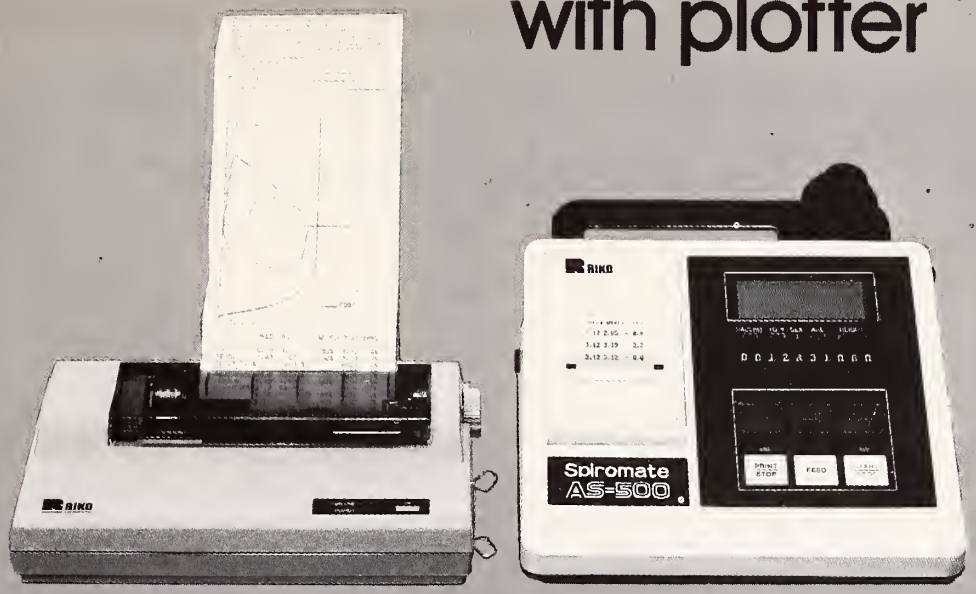
A member of the CREDENTIALS COMMITTEE will be present at the Desk in the West Lobby, Wednesday, April 29, 1987, 3:00 p.m. to 5:00 p.m., and Thursday, April 30, 1987, 8:30 a.m. to 10:00 a.m. to certify Delegates. Delegates are urged to bring their Credential Cards for presentation at the Registration Desk. Delegate Badges must be worn to be seated in the HOUSE OF DELEGATES.

REFERENCE COMMITTEE HEARINGS

Reference Committee hearings are scheduled to begin Thursday, April 30, 1987, at 2:00 p.m.

JOHN W. FOUST, M.D., President
HENRY J. CARR, JR., M.D., President-Elect
T. REGINALD HARRIS, M.D., Speaker
JOHN A. FOGG, M.D., Vice-Speaker
JOHN T. DEES, M.D., Secretary
GEORGE E. MOORE, Executive Vice-President

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Recent Changes in Physician-Hospital CEO Relationships

Thomas P. Weil, Ph.D.

The seeds of far-reaching changes in response to economic pressures can be found inside the health care industry.

Physician-hospital chief executive officer (CEO) relationships have undergone significant change in the past several years, primarily as a result of the passage of federal and state health care cost containment measures that have had these major impacts:

- Stabilized hospital Medicare expenditures by developing a prospective payment, diagnosis related grouping (DRG), price-oriented reimbursement methodology that provides incentives for ambulatory care services, and decreases inpatient average lengths of stay and ancillary utilization.
- Froze physician Medicare fees for nearly three years and placed them under federal controls beginning in 1987.
- Developed more regulations (e.g., peer review organizations), and yet encouraged more competition between physicians and hospitals, among hospitals, and among physicians — a situation that has in turn generated increased enrollment in alternate health care delivery systems such as health maintenance organizations (HMOs) and preferred provider organizations (PPOs).
- Modified some reimbursement incentives, with increasing limitations on third-party coverage, thereby sometimes changing how health care is delivered. This assumes there is agreement that the "money stream" has a direct impact on which, how, where, and to whom services are provided.
- Placed increased and in some cases different emphasis on ways of managing such health care cost containment measures as quality assurance, utilization review, case mix management, resources allocation, and productivity monitoring.
- Reduced many states' Medicaid expenditures by tightening eligibility requirements, narrowing the scope of benefits available, and implementing increasingly lower fees-rates relative to usual and customary community physician charges, and, as a result, generated a rise in the number of persons who are uninsured.

This paper focuses on why the relationships between physicians and hospital CEOs are changing; why external, institutional, and office practice trends can be expected to exacerbate any organizational rifts in the next few years; and, finally, how hospital trustees can ensure the clinical and management leadership and the policy direction needed in this era when opportunities for major changes are still so readily available. The assumptions with which I begin this analysis are: (a) the physician and the hospital administrator are *not* natural adversaries, since each has a major dependency on the other; (b) new environmental forces are requiring doctors and hospital management to work more closely together; (c) power in many hospitals is shifting increasingly from the medical staff members to the CEO; and (d) most important of all, if there is understanding (not necessarily assent) of what is occurring around us in medical staff/administrator relationships, then institutions will expend their energies to implement the necessary changes.

External Factors

There are a large number of external factors that are accelerating the current unrest between physicians and hospital CEOs. Possibly the most quantifiable are the U.S. health expenditure's rise from 8.6% of the gross national product in 1975 to 10.6% in 1986, and hospitals' claim of a significant percentage of the nation's total health care dollars (44.9% in 1986).[1] This is in spite of the fact that the number of physicians in practice in the United States has increased from 377,000 in 1975 to nearly 450,000 in 1980. This number is projected to rise to nearly 600,000 by the end of this decade.[2] Considering that among those starting to practice in the 1990s will be the 16,400 admitted to medical school in 1986, the U.S. will have one actively practicing

From Bedford Health Associates, Inc., Management Consultants for Health and Hospital Services, Asheville 28801.

doctor per 400 persons within three years. One-third of the physicians practicing in 1990 will have completed their residency training in the 1980s. These quantitative data would suggest that the current oversupply of physicians will only intensify, and this finding has a number of implications.

There is increasing evidence that, beyond a minimum number, more physicians in a service area decrease both inpatient hospital utilization[3] and the number of emergency room visits. The greater supply of qualified physician services will continue to decrease the number of inpatient admissions and days, forcing the hospital's management team to be more aggressive in marketing institution based services that are frequently in competition with the medical staff's office practice.

Many of the nation's teaching hospitals/medical schools are becoming more aggressive in establishing referral patterns as they are being adversely affected by the reductions in research and training grants, and as their former residents are providing more sophisticated procedures at community hospitals — procedures which were previously performed only at university referral centers. Meanwhile, managers of community hospitals are pressing their medical staffs for more paying admissions and seeking ways to minimize the number of referrals to teaching hospitals. The conflict between ''town'' and ''gown'' may well intensify in the next few years as both struggle to obtain a greater slice of a shrinking market.

Physicians and hospital administrators are often confused about how to react to the increasing competition between not-for-profit and investor-owned organizations. On one hand, most medical staff members are opposed to hospitals broadening their program or service base in ways that adversely affect the private practice of medicine. On the other hand, doctors are witnessing a sizeable and significant development of investor-owned primary, urgi-, emergi-, and ambulatory surgery centers, imaging centers, and other facilities where the ownership may be by physicians, another hospital, or outside entrepreneurs. In some cases these facilities have a direct impact on the doctor's office practice. The conflict becomes even more difficult to resolve if power brokers on the hospital's medical staff are prime leaders in the development of the investor-owned service without hospital participation, and if the venture is in direct competition with what the acute-care facility has traditionally provided (e.g., ambulatory surgery).The next few years may well witness the most difficult of times for hospital/medical staff relationships because of a decrease in the available health care dollar, coupled with fiscal constraints on acute-care institutions, and conflicts in determining equitable reimbursement for physician services. What could potentially be the most trying is the rolling of physicians' fees into the Medicare DRG rate,[4] and an increasing number of administrators and doctors having to negotiate fee-for-service or capitation rates for providing specific care.

Internal Factors

The physician/hospital CEO relationship also needs to be further discussed in terms of a number of major internally-oriented changes that are occurring. Possibly the most striking changes in the past several years stem from the incentives inherent in most of the current third-party reimbursement plans. They have forced a reduction in the average length of hospital stay; they have encouraged the use of ambulatory rather than inpatient ancillary services, more critical evaluation of expensive equipment and supplies, and the development of clinical protocols by DRG to reduce the scope of routine orders by physicians on admission; and they have placed an emphasis on productivity, which in labor-intensive industries translates into a reduction in the number of full-time equivalent employees.

The declining average daily in patient census could well result in friction between physicians and hospital CEOs in a number of other ways: (a) acute-care institutions will focus on increasing their admissions in reaction to the reduction of the average length of hospital stay, and many of the strategies used will be perceived as competition with individual physicians or other facilities; (b) hospitals are developing more sophisticated, integrated, and coordinated clinical-fiscal-management information systems that, as administrators choose doctors who are DRG ''winners'' or ''losers,'' are perceived by physicians as starting to control the individual practice of medicine; (c) hospitals are reducing the number of full-time equivalent employees, when there is already some substance to the argument that patient care is adversely affected; (d) hospitals need to mobilize their resources so that they are both high tech and high touch, a difficult concept for many hospitals to implement; and (e) many new joint ventures will be consummated, but with the focus on who controls the enterprise and how the revenues are to be divided between the participating physicians and the hospital. Decreasing average daily census not only will intensify conflict between the medical staff and the hospital CEO, but also can result in further corporatization.

The traditional relationship between the medical staff leader and the hospital CEO may become more blurred because of the following factors: the greying of actual management philosophies between the not-for-profit and investor-owned endeavors; the decline in the number of free-standing institutions and the development of multi-hospital systems or, preferably, multi-level health care corporations; and institutional corporate restructuring and unbundling into holding companies with not-for-profit and for-profit subsidiaries. In fact, an increasing number of physicians are concerned about a facility or a specific clinical service being closed; about working with a hospital CEO who, more often now than a decade ago, is reporting to a senior corporate official many miles away; and about the not-for-profit hospital having to emulate some of the social values[5, 6] of the investor-owned facility in order to survive.

Although there is blurring today between the not-for-profit and investor-owned facilities in terms of the objective to improve the institution's bottom line, there is still concern over whether the mission of a hospital is to meet community health care needs or to maximize the stockholders' return on investment.[7] There is increasing evidence that low-income and uninsured patients are having more difficulty obtaining care; there is already some rationing under way of expensive tertiary-type services; and, certainly, an increasing percentage of the cost of health care is being borne by the patient, whether in terms of dollars or of the family's increased assistance during the convalescent period because of a shorter hospital stay.

Physicians, like hospitals, are struggling to retain their traditional revenue stream, and are finding it increasingly difficult to maintain the same standard of living experienced by most doctors just a decade ago. Although in the 1971-1981 period there was a 12.0% per annum increase in per capita expenditure for physicians' services in the United States, and by the end of that period doctors had an average gross income of $167,000 per year, the average net income from medical practice per physician (adjusted by the U.S. Department of Commerce fixed-weight price index for personal consumption expenditures) was marginally less in 1981 than in 1971 (table 1). Although there is public criticism that physicians' fees or their incomes are too high, the consumer price index (CPI) for physicians' services (deflated by the fixed-weight price index for personal consumption expenditures) has increased only 1.0% per annum between 1971 and 1981. More recent data[8] illustrate that the average practicing doctor has declining purchasing power, and that there is a sense among many physicians that a number of organizational-fiscal changes are already on their way, as so vividly publicized by the recent rise in malpractice premiums.

Who Is in Charge?[9]

Much has been written in the past about the appropriate interaction of the governing board, medical staff, and management in the most effective and efficient operation of a hospital. The implementation of multi-level health care systems responsible for several hospitals in a region, and joint ventures between institutions and physicians, will result in analyses of where resources are and who obtains them in a shrinking marketplace. CEOs will be most vulnerable to the problems inherent in attempting to meet physicians' needs by expending resources while simultaneously creating a fiscal operating gain, thereby enjoying the confidence of the local governing board or central offices — a fine balance to maintain. To improve their relationships with physicians, health care CEOs will need to be particularly credible, enthusiastic, analytic, politically savvy, competent, and communicative, and yet remember that they are in an industry with a social responsibility to maintain the physical and

Table 1

Average Income Per Physician and Per Capita Expenditures for Physicians' Services, Nominal and Real, 1971 and 1981

Selected Variables	*Year* 1971	1981	*Average Annual Percent Change*
Per capita expenditures for physicians' services[1]	$ 75	$ 234	12.0%
Per capita expenditures for physicians' services deflated by the consumer price index for physicians' services	$ 58	$ 78	3.0
Average gross income per physician[2]	$74,197	$167,000	8.5
Average gross income per physician deflated by the consumer price index for physicians' services	$57,163	$ 55,853	−0.2
Average total tax deductible professional expense per physician[2]	$28,919	$ 74,000	9.9
Average total tax deductible professional expense per physician deflated by the fixed-weight price index for personal consumption expenditures[3]	$29,937	$ 36,616	2.0
Average net income from medical practice per physician	$45,278	$ 93,000	7.5
Average net income from medical practice per physician deflated by the fixed-weight price index for personal consumption expenditures[3]	$46,872	$ 46,017	−0.2
Consumer price index for physicians' services (1967 = 100.0)	129.8	299.0	8.7
Fixed-weight price index for personal consumption expenditures (1972 = 100.0)[3]	96.6	202.1	7.7
Consumer Price Index for physicians' services deflated by fixed-weight price index for personal consumption expenditures[3]	134.4	147.9	1.0

[1] Gibson RM and Waldo DR. National Health Expenditures, 1981. 1982; Health Care Financing Rev, September.
[2] American Medical Association. Profile of Medical Practice, 1981, and SMS Report, 1982; AMA Center for Health Policy Research.
[3] The fixed-weight price index for personal consumption expenditures is reported in Bureau of Economic Analysis, Survey of Current Business, U.S. Department of Commerce.

Source: Freeland MS and Schendler CE, National health expenditures growth in the 1980s: an aging population, new technologies, and increasing competition. Health Care Financing Rev 1983;4:23.

mental well-being of the people their institutions serve.

Trustees, to be effective within the context of these physician-hospital CEO changes, will need to expend more effort in dialogue with medical staff and management representatives in evaluating how the facility's resources can best fit into the region's health care delivery system, and yet allow each of the parties to these discussions to remain fiscally viable. To have trustees dictating major policy decisions to the medical staff is no longer tolerable in this competitive and regulatory environment. Trustees with leadership skills and insight frequently have other professional or personal commitments that too often do not allow them the appreciable amount of time that it takes to work with a medical staff. One dinner meeting between key members of the governing board and medical staff on a crucial decision cannot bring about the rapport and joint effort that are so often required.

Governing boards, to shape the appropriate physician-CEO relationships of the future, will be focusing more on developing regional multi-level health care delivery systems and alternate prepaid health insurance programs (e.g., HMOs, PPOs, and independent practice associations). The current competitive environment has provided the opportunity to reshape the health care system with an emphasis on both regionalization and allowing employees-employers a greater selection of types of health insurance coverage.

Joint ventures between physicians and hospitals require trustees to consider doctors partners with the hospital. This kind of endeavor often requires trustees to make major decisions with counsel from the management team within a shorter time-frame than in the past. Since these undertakings are also frequently more complex in their organizational structure and financing, the board's final determination of whether or not to proceed is frequently made by a smaller number of doctors, trustees, and the management team.

Governing boards may have the most difficulty in resolving changes in the physician-hospital CEO relationship that concern some of the more clinical aspects of a hospital, such as quality assurance, the appropriate care of the uninsured, and needed justification for expending limited capital funds for new technology. There is in the larger hospitals a trend toward appointing a physician on a part- or full-time basis to serve as a kind of vice president of medical affairs, and this can be expected to occur more frequently in the future. Experience throughout the world has illustrated that as the health care system relies increasingly on public rather than private financing for its operating and capital revenues, physicians become a more integral part of the management team. It can be anticipated that for the types of decisions that have significant clinical overtones that may be more critical in the years to come, salaried physicians (maybe part-time while chief of staff) will be a prevalent pattern, the timetable dependent on the rolling of the physicians' fees into the hospital's DRG rates or some similar approach.

What we will see more often as a result of these physician-hospital CEO changes is a utilization of the joint conference committee, or meetings of the executive committees of the governing board and medical staff, as possibly the real final sounding board for a proposal. In many ways, the final governing board action will be perfunctory. To make that type of organizational structure function, hospitals are going to need more joint trustee-MD committees that act as "working parties" (not to be considered a new management concept) to analyze in detail rather broad topics. The advantage of trustees and MDs working concurrently and jointly at the outset on a major decision is the combination of policy and clinical expertise that should allow the decision-making process to proceed more effectively and with greater precision.

The changes that are occurring in the health care system, and therefore in physician-hospital CEO relationships, not only provide an opportunity to organize the health care system with more multi-level integration and alternate health care plans attuned to the needs of the region, but also allow for governing board-medical staff-management teams to reevaluate their own decision-making processes. More intensive dialogue, more experience with joint ventures, and the appointment of physicians as members of the management team will be critical in meeting these changes in increasingly competitive and regulatory times; but probably the most promising technique is the establishment of more trustee-MD-management "working parties" that utilize the knowledge and skills of committee members to arrive at answers that meet the needs of the community and the health care providers, at the same time minimizing the self-interest of those involved in providing high-quality patient care to the region. ■

References

1 Arnett RH, et al. Projections of health care spending to 1990. Health Care Financing Review 1986;7:1-36.

2 Crozier DA, Iglehart JK. Trends in health manpower. Health Affairs 1984;3:122-31.

3 Weil TP. Do more physicians generate more hospital utilization? Hospitals 1981;55:70-4.

4 Jencks SF, Dobson A. Strategies for reforming Medicare's physician payment: physician diagnosis-related groups and other approaches. N Engl J Med 1985;312:1492-9.

5 Nutter DO. Access to care and the evolution of corporate, for profit medicine. N Engl J Med 1984;311:917-9.

6 Levey S, Hesse OD. Bottom-line health care. N Engl J Med 1985;312:644-7.

7 Relman A. Selling to the for-profits: undermining the mission. Health Progress 1985;66:81-5.

8 LeRoy L, et al. Trends in health manpower. Health Affairs 1985;4:86-7.

9 Some of the arguments in the section "Who is in charge?" parallel my paper: The changing relationship between physicians and the hospital CEO. Trustee; AHA J for Governing Board members 1987;2:15-9.

My Kingdom for a Fix

"T's and Blues" — Was and Is

Ronald B. Mack, M.D.

Richard III has always been my favorite king. You say you don't have one and don't want one! Why not, it's a harmless indulgence and many of those historical figures have qualities that are worthy of emulation. For example, like me, Richard was short, tough, mean, ambitious and had the kind of face that did not attract groupies. I like that in a man, I can relate to that. He said, "That dogs bark at me as I halt by them . . . and therefore, since I cannot prove a lover to entertain these four well-spoken days, I am determined to prove a villain. . . ."[1] At the end of his life, at the Battle of Bosworth Field, he is knocked off his horse in the middle of the battle, and instead of asking for a corpsman or medevac chopper he exclaims: "A horse! A horse! My kingdom for a horse." There are apparently some opiate junkies who would trade their kingdoms for some "T's and Blues."

To be honest, I thought we had seen the last of "T's and Blues" because of the recent formula change of pentazocine. But I am getting ahead of the story, more about the resurgence later.

"T's and Blues" refers to the combination of two drugs, pentazocine (Talwin) and tripelennamine (Pyribenzamine); the latter is available in the form of *blue* tablets. Why would anyone want to take this mixture, is it for people with bad pain *and* a dripping nose from whatever, ragweed for instance? Nay, nay, it is a heroin-like substitute used by opiate addicted unfortunates who cannot score heroin because it is difficult to obtain or too expensive or who prefer this combination to heroin or any other opiate. "T's and Blues" are considerably cheaper to use than heroin.

Pentazocine (Talwin) was originally synthesized in an attempt to produce an analgesic that would be effective but lack abuse potential.[2] So much for good intentions!! The central nervous system (CNS) effects of this drug are similar to those of other morphine-like opioids, vis-a-vis sedation, analgesia and respiratory depression. It is well absorbed from the gastrointestinal tract as well as from subcutaneous and intramuscular sites. Peak plasma values occur 15 minutes to one hour after intramuscular administration and one to three hours after oral administration. The first pass metabolism in the liver, when the drug is ingested, is formidable, and a bit less than 20% ultimately enters the systemic circulation. The plasma half-life is two to three hours. As you might imagine, pentazocine is metabolized in the liver and the metabolic products are excreted in the urine. There is the interesting finding that the rate of metabolism of this drug varies between individuals, accounting for the variability in analgesia. Speaking of analgesia, 30 to 60 mg of pentazocine parenterally is equivalent, generally, in analgesic affect, to 10 mg of morphine. This drug, in terms of its peak effect, is about one-fourth as potent orally as parenterally, and as an analgesic, only one-third as potent orally as parenterally.

Tripelennamine is an H_1 blocking agent (AKA antihistamine) better known as pyrabenzamine.[3] This drug is an ethylenediamine type of antihistamine available in tablet and syrup form and is meant to be administered orally. When ingested, this drug is rapidly absorbed from the gastrointestinal tract with therapeutic effects beginning in 15-30 minutes and lasting four to six hours. It is widely distributed in the body including the central nervous system.

H_1 blockers, in general, share many pharmacologic properties. These include inhibiting the response of histamine, which can cause constriction of smooth muscle — e.g., gastrointestinal and respiratory systems and the vascular system — as well as antagonize the action of histamine that causes increased capillary permeability with subsequent formation of edema. H_1 blockers can stimulate and depress the CNS. The stimulation can be severe enough to cause convulsions, especially in young children. Depression of the CNS is a more typical reaction to these drugs even with therapeutic doses. The more outstanding features of antihistamines as a drug class is their ability to cause atropine-like *anticholinergic* effects such as dryness of the mouth, mydriasis, tachycardia, flushing of the skin, hallucinations, etc. Tripelennamine, in all candor, is not exactly pristine in terms of drug abuse. In the 1960s this drug was mixed with paregoric, in times of heroin shortages, and was known as "blue velvet."

Now that we know what's in "T's and Blues" let's look

From the Department of Pediatrics, Bowman Gray School of Medicine, Wake Forest University, Winston-Salem 27103.

and see why anyone would want to combine these two drugs and then inject them to produce a "high." At this point it makes no sense and when we look into the problem further it will make even less sense. (This, by the way, is brought to you by a person whose idea of a "high" is a plate of aglio olió con linguine, with a glass of Chianti.) During the mid-1970s, apparently during a period of relative heroin drought, some "street chemists" found that this mild pain killer and this over-the-counter antihistamine could pack a wallop similar to "smack," horse, etc. Either of these drugs taken alone could produce sedation or anxiety, but taken together the combination produces a euphoric rush.

During this period in drug history, the mid 1970s, "street" heroin dropped in quality as well as quantity and this vacuum was partially filled by "T's and Blues." This potentially lethal combination began in the Midwest and spread from there to all parts of the country; it seems to be a purely American invention unlike our imported killers such as cocaine, etc. Even when heroin became more plentiful and of better quality this combination remained the drug of choice for many users. Why not, it was fairly easy to get, relatively cheap and the quality was usually a constant, unlike heroin whose concentration fluctuated widely.

The user mixed the drugs as follows: one or two 50 mg pentazocine tablets combined with one 50 mg tripelennamine tablet. The tablets are crushed, dissolved in water, strained through cotton and injected intravenously. The effect is an immediate "rush" lasting five to ten minutes. The initial effects are soon followed by dysphoria, (a well of ill-being), so injections are repeated. After three or four such "shoot-ups" the rush may be followed by a longer-lasting feeling of well-being lasting one or two hours, which subsides over the succeeding two to four hours.[4] Sounds fantastic, doesn't it? Seems like just the stuff to take before your spouse's high school reunion commences.

When the patient responds adversely to the "T's and Blues" infusion the results are fairly predictable, i.e. signs and symptoms of a narcotic overdose plus an antihistamine overdose. The clinical features that the patient experiences and that you may be called upon to treat include acute hypertension, tachycardia, arrhythmias, respiratory depression (usually less than from many of the narcotic analgesics), stupor, coma and seizures. You would expect miosis and, no surprise, it is typically present. Pentazocine overdose can produce the classic narcotic triad of coma, miosis and respiratory depression, but also can produce seizures. Meperidine (Demerol) and pentazocine (Talwin) are the two narcotics that are more likely to cause seizures in overdose. In addition to this clinical cluster of adverse features, "T's and Blues" can produce headache, blurred vision, dry mouth, vomiting, urinary retention and hallucinations. Long-term complications include superficial thrombophlebitis, skin abscesses, skin ulcerations, vasculitis, muscle fibrosis, talc granulomas and talc angiothrombosis (both of the latter from the cotton strainer, possibly), pulmonary hypertension and psychosis. It is considered bad form to use "T's and Blues" during pregnancy; it can cause miscarriage and fetal addiction and newborn withdrawal states.

Woe is me, the Talwin Company must have cried (Winthrop Laboratories, a division of Sterling Drug, Inc.) — who needs this aggravation, this bad public relations. As reported in 1983 in the *Journal of the American Medical Association*, the company decided to reformulate pentazocine (Talwin) by adding naloxone to the compound. Naloxone (Narcan) is a narcotic antagonist that is inactive when taken by mouth and does not affect the safety and efficacy of pentazocine when taken orally as directed. The new formulation did not include pentazocine lactate, the legitimate injectable form of the drug.[5]

When the oral form of pentazocine was reformulated with naloxone, I breathed a sigh of relief; one more problem I would not have to struggle with. Those of us who felt that way were wrong. Cases of abuse of "T's and Blues" are still being reported and there are several reasons that can be offered for the failure of naloxone to completely eliminate the problem. Probably the major reason for this failure has to do with opioid receptor subtypes. (Are you sure you want to hear this?) Opioid drug and peptides bind to specific sites in the brain and other organs. The major categories of receptors, that are the best studied, appear to be:

1. *mu (μ) receptors* — associated with supraspinal anesthesia, respiratory depression, physical dependence and euphoria.
2. *kappa* (κ) *receptors* — associated with spinal anesthesia, miosis and sedation.
3. *sigma (σ) receptors* — associated with hallucinations, dysphoria, respiratory and vasomotor stimulation.

To further confuse us, pentazocine has both narcotic agonist and antagonist properties. Thus this drug has agonist effects at the kappa and sigma receptors but antagonist effects at the mu receptor. Naloxone, the narcotic antagonist, exerts its main effects on the mu receptor and may not antagonize the agonist actions of pentazocine at the kappa and mu receptors. If you don't quite grasp all this, never mind. The thing to remember is that a difference in receptor binding may account for the failure of the pentazocine-naloxone combination to block the effect of "T's and Blues." In other words, the unopposed action of pentazocine at the sigma receptor may be important in the drug's ability to alter mood and that's the name of the game — to produce, in the user, a mood-altering experience.

Other reasons given for the failure of pentazocine-naloxone reformulation to solve the "T's and Blues" abuse problem include: (1) naloxone has a very short half life; pentazocine's $T^1/_2$ is longer — the user could wait till the naloxone effect wears off and then "Beam me up Scotty"; (2) tripelennamine may have "high" producing qualities not related to its anticholinergic or antihistamine actions. It

may even be able to act at opioid receptors and may be only partially blocked by naloxone.[6]

For whatever reason, "T's and Blues" abuse is not to be spoken of in the past tense as yet. If you see a patient who you believe has overdosed on this combination, the treatment should include supporting the cardiac and respiratory functions of the patient of course. The antidote for pentazocine overdose is *naloxone* (adults: IV 0.4 to 2.0 mg initially; children: IV 0.1 mg/kg initially) repeated as needed. It is important to emphasize here that much higher than usual doses of naloxone may be needed to reverse the adverse effects of pentazocine. In general, large doses of naloxone have been given without evil effects. In severe cases *physostigmine* can be given to overcome the anticholinergic effects of tripelennamine. Indications for physostigmine use include: severe hallucinations, hypertension, arrhythmias, convulsions (can also be caused by the pentazocine).

In the second half of the 19th Century Dr. Willian John Little described the disease we know as cerebral palsy; in fact, this physical condition has been referred to historically as "Little's Disease." Richard III's mother had a difficult labor, for the once and future king was in a breech presentation and had to be delivered by C-section. Dr. Little believed that Richard had cerebral palsy.[7] In spite of his physical handicaps, Richard III was a formidable ruler and apparently had a fair amount of success with women. After he proposes to the Lady Anne (widow of the Prince of Wales) and she accepts, he exclaims:

Was ever woman in this humor wooed?
Was ever woman in this humor won?
I'll have her, but I will not keep her long.
What? I that killed her husband and his father
To take her in her heart's extremest hate,
With curses in her mouth, tears in her eyes . . .[8]

Did this dude have charisma or what? ■

References

1 Seward D. Richard the Third, England's Black Legend. New York: Franklin Watts Inc., 1984, p.121.
2 Goodman and Gilman. The Pharmacological Basis of Therapeutics, 7th edition. New York: Macmillan Publishing Co., 1985, pp. 520-2.
3 Ibid, pp. 618-24.
4 Reed DA, Schnoll SH. Abuse of pentazocine-naloxone combination. JAMA 1986;256:2562.
5 Medical News. JAMA 1983;249:1689.
6 Reed DA, Schnoll SH. Abuse of pentazocine-naloxone combination. JAMA 1986;256:2562.
7 Accardo PJ. Deformity and character — Dr. Little's diagnosis of Richard the Third. JAMA 1980;244:2746.
8 Shakespeare W. Richard III. Act I, Scene II.

National Eye Care Project Has Toll-Free Helpline

Potentially blinding eye disease can be treated effectively if detected early, a fact that 4,755 elderly North Carolina residents have discovered through the National Eye Care Project (NECP).

Volunteer North Carolina ophthalmologists have uncovered 642 cases of cataracts, 59 cases of glaucoma, 138 cases of macular degeneration, and 26 cases of diabetic retinopathy, among elderly North Carolina residents who have called the toll-free Helpline — 1-800/222-eyes (3937) — to receive assistance through the NECP.

The public service, which offers medical eye care to the disadvantaged elderly at no out-of-pocket cost, is sponsored by the North Carolina Society of Ophthalmology and the Foundation of the American Academy of Ophthalmology.

The NECP is available to U.S. citizens or legal residents, age 65 or over, who are not currently under the care of an ophthalmologist, and who have not seen one within the past three years.

Since the North Carolina Helpline opened on May 19, more than 4,755 residents have called, resulting in more than 3,145 referrals of elderly patients to local volunteer eye physicians for medical examination and possible treatment for sight-threatening eye diseases.

More than 140,000 elderly Americans have called the toll-free helpline number — 1-800/222-eyes, since the project opened in January. Amazingly, about 34% of those examined by ophthalmologists report that they had *never* before had a comprehensive medical eye examination. For another 20%, it had been more than five years since their last eye examination.

"We want elderly people to know that failing eyesight in their later years can be prevented or lessened through early diagnosis and treatment," said John H. Killian, M.D., president of the North Carolina Society of Ophthalmology. "We are now able to repair or even replace certain parts of the eye by using sophisticated surgical tools and important new drug therapies."

Periodic medical eye examinations are particularly important, said Dr. Killian, to detect potentially blinding eye disease such as glaucoma, which has no early warning signs. Nationwide, about 1,600 cases of glaucoma have been diagnosed and treated through the project.

After calling the toll-free Helpline, an elderly person will be mailed the name of a volunteer ophthalmologist who will treat the patient, regardless of his or her ability to pay, and who will accept (for this project) Medicare or insurance assignment as payment in full. If hospital care is needed, the ophthalmologist will work with a local hospital to make care available. Hospital charges, eyeglasses and prescription drugs are not paid through the program.

More than 7,000 ophthalmologists are participating in the NECP. The Helpline is open weekdays from 8 a.m. to 5 p.m. in all states (except Hawaii, 8 to 3).1

Diuretic-Induced Edema

William B. Blythe, M.D.

I suspect that it comes as a surprise to most physicians that diuretic drugs, the very keystone of therapy for edema, may be, in themselves, the cause for edema — as well as confusion and frustration.

What is the clinical situation in which this oxymoronic phenomenon is likely to be seen? It is one that has been encountered many times over by many physicians — no matter what the specialty — who take care of women: the woman with what is referred to as idiopathic or cyclic edema.

A woman may come to her physician complaining of swelling or "puffiness" about the ankles, in the hands, around the eyes, in the abdomen, and various other parts of the body. More often than not, these symptoms occur in the days preceeding menstrual bleeding.

Usually after the first visit, and, if not, almost certainly after the second or third, when the complaints have become increasingly serious, the doctor prescribes a diuretic drug with instructions that go something like this, "Ms. X, I can find no cause for your swelling; it's probably associated with your periods. I am giving you some water pills which you may take when you have the swelling."

The patient does this for a few times and then realizes that even more drug rids her of more swelling and discomfort and she feels much better: her ankles are thinner and there is no puffiness about the eyes and no abdominal bloating. Body weight is less. All is beautiful.

The bliss is short-lived. The patient realizes that when the diuretic drug is stopped, the swelling returns — and more emphatically.

The situation is now such that there are large weight gains and striking edema when the drug is not taken and marked weight loss occasioned by larger doses of drug.

The patient becomes obsessed with staying edema-free and more and more of her life is devoted to this. Her physician becomes uncertain about the nature of the edema and institutes an extensive and costly evaluation. He or she may even assign a more serious etiology — "heart failure" or "renal failure," for example — to the edema.

The patient changes physicians or becomes more and more surreptitious about her diuretic drugs. Potassium depletion, with its consequences, becomes manifest.

From Department of Medicine, The University of North Carolina, North Carolina School of Medicine, Chapel Hill 27514.

Confusion, dismay, and guilt are the governing factors, and the patient usually ends up with a psychiatrist, endocrinologist, cardiologist, nephrologist, or all four.

How can this concatenation be avoided? I am not certain that it can be all the time, but as is most often the case, an understanding of the pathophysiology will prevent — or minimize — the diagnostic and therapeutic abyss into which the uninformed may fall.

Professor H.E. de Wardener and his colleagues at the Charing Cross Hospital Medical School have led the way in enlightening us about this treacherous syndrome.

They have proposed that the edema in most patients with "idiopathic edema" is caused by the use of a diuretic drug. It is their thesis that whatever the initial reason for starting the drug, its continued use causes volume depletion which leads to increased plasma renin levels and thus to hyperaldosteronism. A vicious cycle now ensues; irregularity in the dose of diuretic drug may cause a sharp fall in urinary sodium excretion, a gain in weight, and the rapid onset of the characteristically uncomfortable edema. The presence of the edema prompts a quick return to the the use of the drug, and the secondary hyperaldosteronism is enhanced.

Professor de Wardener points to an additional important factor. This has to do with carbohydrate and salt *intake*. Many patients confess that in attempting to control their weight, they sometimes vary considerably the amount of food they consume both when they are and when they are not taking diuretic drugs. They may "starve" themselves for several days and then eat voraciously. Sudden increases in carbohydrate and sodium intake after fasting can cause retention of sodium and water.

It is de Wardener's suggestion that the syndrome of idiopathic edema did not exist before oral diuretic drugs were available. Although not all experts are as convinced of the etiologic role for diuretic drugs, all are convinced that the drugs are the most important factor in exacerbating the manifestations, and prolonging the course, of idiopathic edema.

How then should the physician approach the patient with idiopathic edema?

First, there must be a keen awareness of its existence; second, early in the relationship with the patient, disorders of the heart, liver, and kidneys should be ruled out as the cause for the edema; third, small doses of diuretic drugs should be prescribed only when absolutely necessary, and

the patient must be convinced that they should be taken regularly and not intermittently; and last, the physician must be aware that if the edema becomes strikingly worse, the patient has entered the vicious cycle that I have described.

Treating these patients is a challenge and treating them successfully is quite satisfying to patient and physician alike. ■

1987 National Psychology Awards for Excellence in the Media

The American Psychological Association and the American Psychological Foundation announce the 1987 National Psychology Awards for Excellence in the Media.

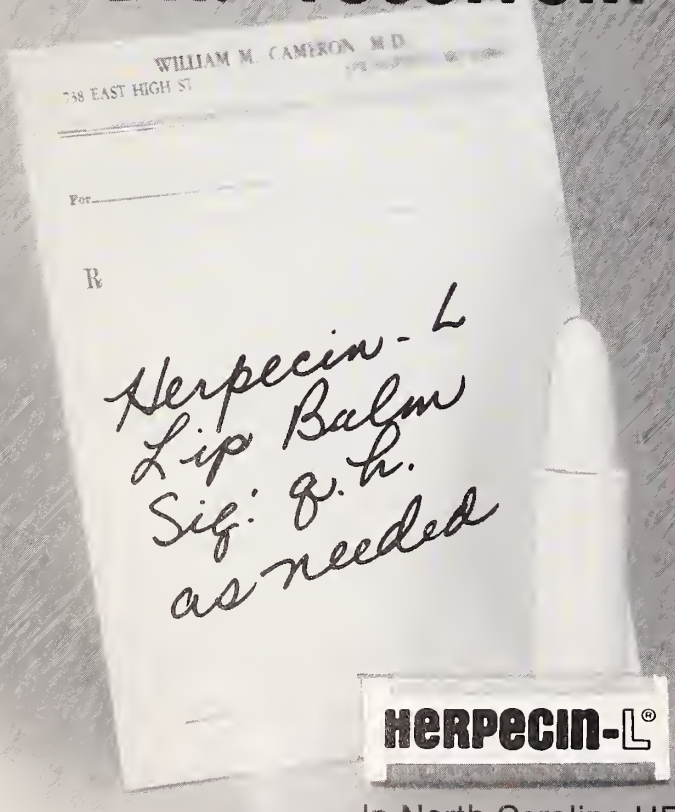
The purpose of the awards are to recognize and encourage outstanding, accurate coverage wich increases public understanding of psychology. Winners in each of six categories will receive a $1,000 cash award, a certificate, and an invitation to attend the 95th Annual Convention of the American Psychological Association in New York City.

Categories are: newspaper reporting; television/film (news/documentary); magazine articles; radio programs; television (drama/entertainment); and books/monographs.

Entry deadline is April 15, 1987.

For further information, write to: National Media Awards, Public Affairs Office, American Psychological Association, 1200 Seventeenth St., N.W., Washington, DC 20036. 202/955-7710.

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EFFECTIVE MAINTENANCE THERAPY

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In two randomized, double-blind, and well-controlled clinical trials, ZANTAC 150 mg h.s. significantly superior to cimetidine 400 mg h.s. for maintenance therapy in healed duodenal ulcers.

Percent of patients with observed duodenal ulcer recurrence

		0-4 months	0-8 months	0-12 months	No. patients
USA[1]	ranitidine 150 mg h.s.	9%	14%*	16%†	60
	cimetidine 400 mg h.s.	23%	34%	43%	66
UK, Ireland, Australia[2]	ranitidine 150 mg h.s.	8%‡	14%‡	23%‡	243
	cimetidine 400 mg h.s.	21%	34%	37%	241

*p=0.02
†p=0.01
‡p≤0.004
%=life-table estimates
All patients were permitted prn antacids for relief of pain.

These two trials used the currently recommended dosing regimen of cimetidine (400 mg h.s.) and ranitidine (150 mg h.s.). A comparison of other dosing regimens has not been studied.

The studied dosing regimens are not equivalent with respect to the degree and duration of acid suppression or suppression of nocturnal acid.

The superiority of ranitidine over cimetidine in these trials indicates that the dosing regimen currently recommended for cimetidine is less likely to be as successful in maintenance therapy.

Convenient once-a-night dose with a

low incidence of side effects[3]

Headache, sometimes severe, seems to be related to ranitidine administration. Other side effects have been reported; for a complete listing, see the **ADVERSE REACTIONS** section in the Brief Summary.

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ZANTAC 150 mg has no significant drug interactions with theophylline, phenytoin, or warfarin. The bioavailability of certain medications whose absorption is dependent on a low gastric pH may be altered when ZANTAC or other medications that decrease gastric acidity are administered.

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See next page for references and
Brief Summary of Product Information.

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Zantac® 150

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References:

1. Silvis SE, Griffin J, Hardin R, et al: Final report on the United States multicenter trial comparing ranitidine to cimetidine as maintenance therapy following healing of duodenal ulcer. *J Clin Gastroenterol* 1985;7(6):482-487.
2. Gough KR, Korman MG, Bardhan KD, et al: Ranitidine and cimetidine in prevention of duodenal ulcer relapse: A double-blind, randomised, multicentre, comparative trial. *Lancet* 1984;ii:659-662.
3. Data available on request, Glaxo Inc.

ZANTAC® 150 Tablets
(ranitidine hydrochloride)
ZANTAC® 300 Tablets
(ranitidine hydrochloride)

BRIEF SUMMARY OF PRODUCT INFORMATION

The following is a brief summary only. Before prescribing, see complete prescribing information in ZANTAC® product labeling.

INDICATIONS AND USAGE: ZANTAC® is indicated in:

1. Short-term treatment of **active duodenal ulcer.** Most patients heal within four weeks.
2. **Maintenance therapy** for duodenal ulcer patients at reduced dosage after healing of acute ulcers.
3. The treatment of **pathological hypersecretory conditions** (eg, Zollinger-Ellison syndrome and systemic mastocytosis).
4. Short-term treatment of **active, benign gastric ulcer.** Most patients heal within six weeks and the usefulness of further treatment has not been demonstrated.
5. Treatment of **gastroesophageal reflux disease (GERD).** Symptomatic relief commonly occurs within one or two weeks after starting therapy and is maintained throughout a six-week course of therapy.

In active duodenal ulcer; active, benign gastric ulcer; hypersecretory states; and GERD, concomitant antacids should be given as needed for relief of pain.

CONTRAINDICATIONS: ZANTAC® is contraindicated for patients known to have hypersensitivity to the drug.

PRECAUTIONS: Symptomatic response to ZANTAC® therapy does not preclude the presence of gastric malignancy.

Since ZANTAC is excreted primarily by the kidney, dosage should be adjusted in patients with impaired renal function (see **DOSAGE AND ADMINISTRATION**). Caution should be observed in patients with hepatic dysfunction since ZANTAC is metabolized in the liver.

False-positive tests for urine protein with Multistix® may occur during ZANTAC therapy, and therefore testing with sulfosalicylic acid is recommended.

Although recommended doses of ZANTAC do not inhibit the action of cytochrome P-450 enzymes in the liver, there have been isolated reports of drug interactions which suggest that ZANTAC may affect the bioavailability of certain drugs by some mechanism as yet unidentified (eg, a pH-dependent effect on absorption or a change in volume of distribution).

Lack of experience to date precludes recommending ZANTAC for use in children or pregnant patients. Since ZANTAC is secreted in human milk, caution should be exercised when administered to a nursing mother.

ADVERSE REACTIONS: Headache, sometimes severe, seems to be related to ZANTAC® administration. Constipation, diarrhea, nausea/vomiting, and abdominal discomfort/pain have been reported. There have been rare reports of malaise, dizziness, somnolence, insomnia, vertigo, tachycardia, bradycardia, premature ventricular beats, and arthralgias. Rare cases of reversible mental confusion, agitation, depression, and hallucinations have been reported, predominantly in severely ill elderly patients.

In normal volunteers, SGPT values were increased to at least twice the pretreatment levels in 6 of 12 subjects receiving 100 mg qid IV for seven days, and in 4 of 24 subjects receiving 50 mg qid for five days. With oral administration there have been occasional reports of reversible hepatitis, hepatocellular or hepatocanalicular or mixed, with or without jaundice.

There have been rare reports of reversible leukopenia, granulocytopenia, thrombocytopenia, and pancytopenia.

Although controlled studies have shown no antiandrogenic activity, occasional cases of gynecomastia, impotence, and loss of libido have been reported in male patients receiving ZANTAC, but the incidence did not differ from that in the general population.

Incidents of rash, including rare cases suggestive of mild erythema multiforme, and, rarely, alopecia, have been reported, as well as rare cases of hypersensitivity reactions (eg, bronchospasm, fever, rash, eosinophilia) and small increases in serum creatinine.

OVERDOSAGE: Information concerning possible overdosage and its treatment appears in the full prescribing information.

DOSAGE AND ADMINISTRATION: Active Duodenal Ulcer: The current recommended adult oral dosage is 150 mg twice daily. An alternate dosage of 300 mg once daily at bedtime can be used for patients in whom dosing convenience is important. The advantages of one treatment regimen compared to the other in a particular patient population have yet to be demonstrated.

Maintenance Therapy: The current recommended adult oral dosage is 150 mg at bedtime.

Pathological Hypersecretory Conditions (such as Zollinger-Ellison Syndrome): The current recommended adult oral dosage is 150 mg twice a day. In some patients it may be necessary to administer ZANTAC 150-mg doses more frequently. Doses should be adjusted to individual patient needs, and should continue as long as clinically indicated. Doses up to 6 g/day have been employed in patients with severe disease.

Benign Gastric Ulcer: The current recommended adult oral dosage is 150 mg twice a day.

GERD: The current recommended adult oral dosage is 150 mg twice a day.

Dosage Adjustment for Patients with Impaired Renal Function: On the basis of experience with a group of subjects with severely impaired renal function treated with ZANTAC, the recommended dosage in patients with a creatinine clearance less than 50 ml/min is 150 mg every 24 hours. Should the patient's condition require, the frequency of dosing may be increased to every 12 hours or even further with caution. Hemodialysis reduces the level of circulating ranitidine. Ideally, the dosage schedule should be adjusted so that the timing of a scheduled dose coincides with the end of hemodialysis.

HOW SUPPLIED: ZANTAC® 300 Tablets (ranitidine hydrochloride equivalent to 300 mg of ranitidine) are yellow, capsule-shaped tablets embossed with "ZANTAC 300" on one side and "Glaxo" on the other. They are available in bottles of 30 (NDC 0173-0393-40) and unit dose packs of 100 tablets (NDC 0173-0393-47).

ZANTAC® 150 Tablets (ranitidine hydrochloride equivalent to 150 mg of ranitidine) are white tablets embossed with "ZANTAC 150" on one side and "Glaxo" on the other. They are available in bottles of 60 tablets (NDC 0173-0344-42) and unit dose packs of 100 tablets (NDC 0173-0344-47).

Store between 15° and 30°C (59° and 86°F) in a dry place. Protect from light. Replace cap securely after each opening.

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Digibind®

A New Frontier in the Treatment of Digitalis Toxicity

Brad Stolshek, Pharm. D.

Digoxin immune Fab (ovine) — Digibind[R] — is a newly marketed orphan drug from Burroughs Wellcome, indicated for the treatment of life-threatening digoxin toxicity. Digoxin antibodies were first produced in 1967 and have evolved with antibody research throughout the 1970s.[1]

To produce the antibody, digoxin is coupled to an immunogenic protein carrier (human serum albumin) which is injected into sheep. After three months of incubation, the antiserum is collected, a crude I_gG fraction is isolated, and the Fab fragment is cleaved by treatment with papain.[2] Fab fragments offer advantages over I_gG molecules in that they are smaller (50,000 daltons vs 150,000 daltons), distribute more rapidly into tissue, have a larger volume of distribution, are excreted faster, and are less immunogenic.[3]

Digoxin Mechanism

Digoxin has high affinity and high specificity for the NaK-ATPase inhibitory site. The inhibition of the NaK-ATPase site results in the intracellular Na^+ concentration rising and leads to increased intracellular Ca^+ providing a positive inotropic effect. The entire mechanism of digitalis toxicity has yet to be determined. Many hypotheses involving the NaK-ATPase receptor have been proposed without conclusive evidence.[4,5] NaK-ATPase inhibition results in prolongation of the action potential plateau. It is also thought that digitalis possesses a cholinergic property responsible for its AV node blocking properties; however, the mechanism of action for this effect is not well elucidated. Extracellular potassium increases in patients with digitalis toxicity because the NaK-ATPase is ineffective in exchanging sodium and potassium.

Treatment of Digoxin Toxicity

The treatment of digoxin toxicity has been revolutionized by the use of digoxin immune Fab. Digoxin immune Fab binds digoxin to form an inactive drug-antibody complex. This binding occurs readily because the antibody-drug affinity is greater than drug-receptor affinity. A shift of the equilibrium away from the receptor then occurs, and the drug-antibody complex is cleared by the kidney with an elimination half-life of 16 to 20 hours in patients with good renal function.[6] Half-life in patients with renal failure has not been reported, but drug-antibody binding effectiveness and safety are similar in these patients without altering the dose.[6]

The manufacturer has reports of over 200 patients having been treated with Digibind[R] to date. Data on file at the company on 114 patients ranging in age from one day to 85 years reports the experience for digoxin immune Fab use. Ninety-four patients had resolution of toxicity following treatment; however, one patient exhibiting only a partial response died due to inadequate antibody availability in the hospital.

The reasons for toxicity included accidental ingestions, suicide attempts, and developments during the routine course of therapy (more than 50%). Treated patients had serum digoxin levels ranging from 1.2 to 100 ng/ml with 75% of the levels > 5 ng/ml. Of the remaining patients, nine were excluded due to inadequate dose, incorrect diagnosis, or agonal rhythm at the time of dosing. In four patients, the data are still being collected. Seven non-response cases were described as: multiple drug overdose (2); severe heart disease with questionable diagnosis of digitalis toxicity (3); severe electrolyte disturbances (1); and no response (1). Adverse reactions to the drug have been minimal. There have been three cases of allergic reactions: one case of erythema at the site of injection; one case of facial swelling and hives occurring halfway through the 30-minute infusion (infusion was stopped); and one case of rash and urticaria occurring one day after the Digibind[R] infusion was completed (cause not established). No incidence of anaphylaxis, serum sickness, or febrile reaction has occurred.

Repeat administration to treat a second digitalis toxicity

From Drug Information Service, Department of Pharmacy, Duke University Medical Center, Box 3089, Durham 27710.

in a patient has not occurred, but has the potential for causing an immunologic reaction. Decreased ventricular function and exacerbation of heart failure is always a consideration when withdrawing digitalis support. In an earlier published study of 63 patients, six showed a decline in cardiac function within a day of digoxin immune Fab administration; however, most patients noted improvements in their hemodynamic states with resolution of their arrhythmias.[6] Serum potassium levels often drop dramatically within one to five hours following administration of digoxin immune Fab. This is consistent with reversal of inhibition of NaK-ATPase and K^+ returning into the cells. Serial serum potassium concentrations should be monitored starting one to two hours after the administration of digoxin immune Fab.

Administration of Digoxin Immune Fab

The dose used to treat toxicity has ranged from 4 to 1600 mg. Suicide attempts require the highest doses of digoxin immune Fab. Dosage calculations are performed in several ways. In a massive ingestion, the total amount of digoxin ingested multiplied by 0.8 (bioavailability of digoxin) will estimate how much digoxin is absorbed. If it is believed that all of the digoxin has been absorbed (complete absorption takes six to eight hours), or if a patient has been on a stable dose of digoxin, then a drug concentration can be used. Table 1 shows calculation of total body digoxin load in milligrams. Using equimolar doses of digoxin immune Fab to digoxin, 40 mg (or one vial) of immune Fab should be administered for every 0.6 mg of total body digoxin. These calculations should be rounded up to the nearest vial. With digitoxin, the bioavailability is 100% and the volume of distribution is 0.56 l/kg.[7] Digoxin immune Fab has been administered as an intravenous slow infusion of two hours' duration in early stages of the clinical trials. Recently, infusion times have been decreased to 15-30 minutes; bolus administration is used with ongoing or imminent cardiac arrest. The manufacturer recommends filtering the solution upon administration. Initial clinical response can be seen within 30 minutes of termination of the infusion. Complete resolution of both cardiac and noncardiac manifestations of digoxin toxicity are usually observed by three to four hours post infusion.[6,8]

Patients who require digoxin for their heart conditions must wait until the digoxin immune Fab is cleared from the body before redigitalization can occur. When digoxin is administered before total unbound antibody is cleared, the new digoxin will bind, thus lowering expected serum concentrations. Elimination of the antibody-digoxin complex in patiants with normal renal function occurs in two to three days, whereas in patients with poor renal function, elimination is believed to be prolonged.[6,8]

Availability of Digibind[R]

Burroughs Wellcome has a goal of distributing Digibind[R] to 130 strategic centers in the United States so that it can be obtained within one hour of a phone call. The company has provided a toll-free line (800/672-7223 in NC) for information on obtaining Digibind[R]. The wholesale cost of a single vial of Digibind[R] is $145.70. Hospitals in North Carolina acting as regional centers are NC Memorial in Chapel Hill, Charlotte Memorial, Duke University in Durham, Onslow Memorial in Jacksonville, and Baptist in Winston-Salem.

Duke has been one of 13 centers selected to conduct experimental trials using digoxin immune Fab. Robert Califf, M.D., and Gary Dunham, R.Ph., have treated 19 of the 114 patients reported by the manufacturer. In addition, they are involved in the post-marketing surveillance program that is monitoring patients receiving Digibind[R]. These investigators may be contacted 24 hours a day by phone or beeper for answering questions regarding dosing and administration of this agent.

Digoxin immune Fab (ovine) — Digibind[R] — should be considered first-line therapy for digitalis toxicity when hyperkalemia and life-threatening arrhythmias are present. When digitalis toxicity is not life-threatening, other forms

Table 1

A. Calculation of total body digoxin (digitoxin)

1. Acute ingestion method

   Number of mg ingested × 0.8 (1.0 for digitoxin) = mg absorbed (total body digoxin/digitoxin)

2. Serum drug level method

$$\frac{\text{Level (ng/ml)} \times 5.6\ \text{l/kg} \times \text{body weight (kg)}}{1000} = \text{Total body digoxin (mg)}$$

(Volume of distribution − digitoxin = 0.56 l/kg)

B. Calculation of amount of digibind to use

$$\frac{\text{Total body digoxin (mg)}}{0.6} = \text{Number of vials of digibind}$$

of management should be considered. Although the antibody has the potential to be immunogenic, side effects have not been significant. ■

References

1 Butler VP, et al. Proc Nat Acad Sci USA.1976;57:71-8.

2 Smith TW, et al. N Engl J Med 1976;797-800.

3 Cole PL, et al. Drug Intell Clin Pharm 1986;20:267-70.

4 Hoffman BF, et al. Goodman and Gilman, 7th ed. 1985.

5 Smith TW, et al. Prog Cardiol Dis 1984;26:495-540.

6 Wenger TL, et al. J Am Coll Cardiol 1985;5:118A-23A.

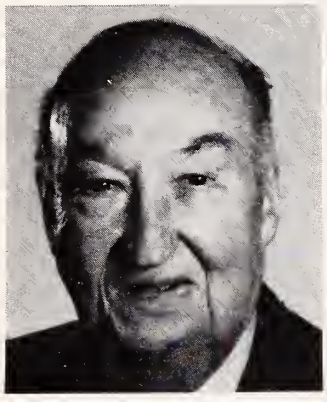
7 Package insert. Burroughs Wellcome Co., Research Triangle Park, N.C., 1986.

8 Data on file. Burroughs Wellcome Co., Research Triangle Park, N.C., 1986.

Charlotte Resident Named Trustee of AARP Andrus Foundation

Dr. Monroe Gilmour of Charlotte, North Carolina, has been appointed to the Board of Trustees of the Andrus Foundation of the American Association of Retired Persons (AARP), it was announced here today by Dr. Kenneth Cook, the Foundation Administrator. Dr. Gilmour will serve a six-year term.

Trustees of the AARP Andrus Foundation administer funding for grants of up to $50,000 in gerontological research covering the social, behavioral and health aspect of aging. The research is aimed at improving the quality of life for older Americans.



Dr. Monroe Gilmour

Researchers affiliated with universities in North Carolina have received numerous grants from the Foundation. They include Duke, Wake forest, North Carolina State and East Carolina universities and the University of North Carolina at Greensboro.

Dr. Gilmour is a member of the AARP Board of Directors and serves as consumer Representative on the Board of Medical Review of North Carolina, Inc. Previously, he was National Secretary for the association and served on the board of the AARP Foundation.

A graduate of Harvard University Medical School, Dr. Gilmour established his practice in Charlotte in 1940. In 1947, he founded the Durwood Medical Clinic, where he was senior staff member until his retirement in 1980.

He is Chairman of the North Carolina Medical Society committee on Aging and has been elect4ed to the North Carolina Institute of Medicine. Dr. Gilmour has written a number of articles for medical journals, and is listed in the 1960 *Who's Who in America*.

Dr. Gilmour is Vice chairman of the Charlotte Treatment Center and immediate Past President of the United Way of Mecklenburg and Union Counties. He was president of the North Carolina Society of Internal Medicine, is a Fellow and past governor for North Carolina of the American College of Physicians, and is a Fellow of the American College of Cardiology.

Established in 1973 as a living memorial to AARP's founder, Dr. Ethel Percy Andrus, the Foundation has awarded 295 grants totalling $10,315,406 to 124 colleges and universities. Most of the money comes from AARP members through donations they add to membership renewals.

With 24 million members, AARP is the nation's largest organization of Americans age 50 and older.

Headquartered in Washington, D.C., the nonprofit, nonpartisan organization offers a wide range of membership benefits, legislative representation at federal and state levels, and educational and community service programs carried out through a national network of volunteers and local chapters.

The association also offers a variety of educational and advocacy programs for older workers who make up one-fourth of AARP's total membership.

An Elderly Patient and a Geriatric Educator

Noel David List, M.D.

An elderly gentleman provided an extended education in the spectrum of problems facing the physician who treats geriatric patients.

Ben was already 86 years old when I met him. I was one week into directing a geriatric program and he was about to enter the world of long-term care. We talked for a while. He asked me if I would become his physician.

Ben's usual physician didn't go to nursing homes, and, Ben felt, never took the time to talk, or more importantly, to listen; when his physician did talk, it was to Ben's family about how to solve Ben's problems.

I found an articulate, well educated, kind and caring gentleman who was now starting out on his own in a nursing home with fears and concerns about social losses and the changes in his environment. Ben was about to leave his home and possessions of a lifetime. While many of his older friends had died, he still had many of all ages in his neighborhood. The world of the nursing home, which he had visited, presented an alarming contrast: it was regimented, it had many sick and demented patients, and in every way, he felt, it was depressing. He was also concerned about his own health.

Ben's statements were tempered by wisdom and wit. His first request was for help in finding a woman companion; although this was said as an opening ploy for conversation, the underlying loneliness and feeling of isolation were evident.

Ben had grown up in eastern Europe but decided to emigrate to the United States. Over the years he had built a successful furniture business, married, and had children, grandchildren and three great-grandchildren. His most difficult time followed the death of his wife about a year before we met.

Ben's family felt that he had no one to be with after his wife's death, and so they wanted to place him in the nursing home. He would frequently talk about his wife and the "way it feels" to be without her. It was an open wound of loneliness that never healed. They had 62 years together. She took good care of him.

Ben had given over his business to the children at age 70. Over the years, Ben and his wife had put their money into funds to support the family, and with Ben's power of attorney the family now managed everything. He shuddered at the fact that he controlled nothing. He had a wonderful house with some land in a part of the city that was growing rapidly around him. Ben said he wanted to be independent, to work and to be useful. His children were afraid to leave him alone, but were unable for various reasons to come and visit.

One of Ben's sons had brought him to the nursing home and told me about his father. Later, when I was examining Ben, I was taken aback by his comment that he had appreciated hearing his son say something nice about him; he only wished the young man would say something nice *to* him once in a while.

Over the years in the nursing home, Ben tried to make a life. The place never became a home. He never felt much like eating. He didn't think it was depression, but just not having somebody to cook and to eat with. He would explain that he wanted to help people, to be with people, feel useful; he felt he could be happy then. He felt fortunate in that he didn't have much in the way of disease. He had an early cataract. He took "some heart medications." He described the swelling in his feet that had occurred some years ago, for which he had been placed on these "medications." Many of his friends were on more medication than he could count on both hands. He had told his other physician he didn't want medicines, especially ones to help him sleep. He was not sick, he was just getting older and did not like to sleep. He was sure he was getting old because everyone kept telling him that.

Obviously, when Ben asked me to become his physician, I agreed. Ben agreed to come to the medical school and

From Center for the Study of Aging and Human Development and the Department of Medicine, Duke University Medical Center, Durham 27710.

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talk to the class to which I was giving lectures on aging. This provided him with purpose and provided me with an excellent guest lecturer. He would develop his own lesson plan utilizing his background and experiences. He talked to the students with dignity of the indignity and with humility of the humiliation and indifference. They heard wisdom and caring from a man dedicated to putting all of the rest of his life to use by telling them, the physicians who might care for him and other elderly patients, about the problems of aging, of disease, and of medications, and about the general needs of older people.

So, once every six weeks for the next four years with appropriate breaks, students would get a chance to talk to someone who experienced and understood loneliness, isolation, the days of the industrial revolution, wars in Europe and America, the Depression, eating alone, the problem with medications, the lack of support from families, financial problems, medicare and medicaid, being sick, and being old in America in the early 1980s. This wonderful and gentle man understood that each time he came from the nursing home with his doctor to help in teaching medical students about growing old in America he was still being of use.

Ben taught and helped me to focus, at a point early in my career, on the broad aspects of geriatric medicine that are not readily discernible in formal geriatric internal medical training. With that start, it was much easier to integrate specific clinical medical information about the elderly into the broad approach needed to be a practicing geriatrician. To paraphrase Ben's standard comment, "it will help to understand that old age is not wasted on the old, it's wasted by the young." ■

Bulletin Board

Continuing Medical Education

Please note: The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina (ECU) and UNC Schools of Medicine, Dorothea Dix, and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or cosponsored by these schools automatically qualify for AMA Category I credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been obtained, this also is indicated.

IN STATE

March 21

Eighth Annual Pulmonary Disease Update
Place: Greenville
Fee: $55
Credit: 6.5 hours Category I AMA
Info: The Office of CME, ECU School of Medicine, Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

March 26-27

Growth Control and Cancer: Molecular Approaches and Clinical Implications
Place: Chapel Hill
Info: Dianne Shaw, Lineberger Cancer Research Center, School of Medicine, University of North Carolina, Chapel Hill 27514. 919/966-3036

April 3

Rehabilitation Medicine: Head Injuries
Place: Greenville
Credit: 7 hours Category I AMA
Info: Office of CME, ECU School of Medicine, P.O. Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

April 3-5

Sixth Annual Ultrasound Symposium
Place: Greensboro
Credit: 16 hours Category I AMA
Info: Sharon Hughes, President, NC Ultrasound Society. 919/748-4505

April 9

North Carolina Clinical Neuro-Ophthalmology Review
Place: Chapel Hill
Info: Baird S. Grimson, M.D., Dept of Ophthalmology, University of North Carolina, 617 Clinical Science Bldg. 229H, Chapel Hill 27514. 919/966-5296

April 10

Plasma Cell Myeloma and Related Diseases
Place: Durham
Credit: 6 hours Category I AMA
Fee: $75
Info: Myeloma Symposium, Box 3096 DUMC, Durham 27710

April 10-11

Advanced Cardiac Life Support Provider Course
Place: Asheville
Credit: 16 hours Category I AMA
Fee: $200
Info: Daniel L. Dolan, M.D., MAHEC, 501 Biltmore Ave., Asheville 28801-4686. 704/258-0881

April 11-22

Highway Safety Conference
Place: Boone
Fee: $25
Credit: 7 Hours Category I AMA
Info: W. Douglas Wooten, Head, Highway Safety Branch, Div. of Health Service, P.O. Box 2091, Raleigh 27602. 919/733-3222

April 22

Neonatal Emergencies: Recognition and Treatment
Place: Greenville
Credit: 6 hours Category I AMA
Fee: $55
Info: Office of CME, ECU School of Medicine, P.O. Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

April 25

Fifteenth Annual New Bern Symposium: The Care of the Elderly
Place: New Bern
Info: Wm. B. Hunt, Jr., M.D., Symposium Director, P.O. Box 2157, New Bern 28560. 919/633-8608

May 8-9

Emergencies of the Lung and Gut in Pediatric Patients
Place: Durham
Fee: $90
Credit: 10 hours Category 1 AMA
Info: Dr. Alexander Spock, M.D., Duke University Medical Center, Box 2994, Durham 27710. 919/681-3364

May 13

Common Diagnostic Problems in Surgical Pathology: A Practical Approach
Place: Greenville
Fee: $55
Credit: 7 hours Category I AMA
Info: The Office of CME, ECU School of Medicine, P.O. Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

May 22

4th Annual Eye Conference — "Ocular Tumors"
Place: Winston-Salem
Info: Kirk Huske, Bowman Gray School of Medicine of Wake Forest University, Graylyn Conference Center, Winston-Salem 27103. 919/748-3971

June 15-17

Surgery for Coronary Artery Disease
Place: Durham
Fee: $460 ACC members: $525 others
Credit: 17 hours Category I ACCME
Info: Registration Secretary, Extramural Programs Dept, American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 800/253-4636; in MD or AK 301/897-5400

Nursing

Except where otherwise noted, contact Nettie Wilburn, CPS, Office of Continuing Education, University of North Carolina, Chapel Hill 27514. 919/966-3638.

May 13-14

The Systematic Process of Instructional Development
Place: Chapel Hill
Credit: 13.2 CEUs pending
Fee: $110

June 1-5

Preparation for NCLEX-RN
Place: Chapel Hill
Credit: 3.39 CEUs
Fee: $75 UNC-CH students: $85 others

June 1-19

Summer Institute: Gerontology for Nurse Educators
Place: Chapel Hill
Credit: 3 CEUs
Fee: $3

OUT OF STATE

March 14-15

Contemporary Trends in Diagnostic Nuclear Medicine
Place: San Francisco, CA
Fee: $352
Info: 415/476-5808

March 16-20

Diagnostic Imaging 1987
Place: Kauai, HI
Credit: 24 hours Category 1 AMA
Fee: $495
Info: 415/476-5808

March 19-20

Hospital Infections in 1987 and Beyond: New Issues, Problems and Strategies
Place: Hilton Head Island, SC
Credit: 9 hours Category I AMA, CEUs
Info: Loraine E. Price, B.S.N., C.I.C., Div. of Infectious Diseases, UNC SChool of Medicine, 547 Clinical Sciences Bldg. 229H, Chapel Hill 27514. 919/966-3242

March 29-April 1

Cardiology Update
Place: Phoenix, AZ
Credit: 26 hours Category 1 AMA
Fee: $395 approx.
Info: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Dr. Ste 215, Laguna Niguel, CA 92677. 714/495-4499

April 2

School Health
Place: Johnson City, TN
Info: Ramona Miller, Ph.D., Program Coordinator, Office of CME, Quillen-Dishner College of Medicine. Johnson City, TN 37614. 615/929-6204

April 3-5

Ophthalmologic Plastic Surgery, Orbital Disease, and Neuro-Ophthalmology
Place: Williamsburg, VA
Fee: $315
Info: Kay Parrott, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 6-8

Newborn Screening for Sickle Cell Disease and Other Hemoglobinopathies
Place: Bethesda, MD
Credit: 13.5 hours Category I AMA
Info: Nancy Cowan, Prospect Associates, 1801 Rockville Pike, Suite 500, Rockville, MD 20852. 301/468-6555

April 9-10

16th Annual School Health Education
Place: Johnson City, TN
Info: Ramona Miller, Ph.D., Program Coordinator, Office of CME, Quillen-Dishner College of Medicine, Johnson City, TN 37614. 615/929-6204

April 9-11

Thoracic Imaging Update
Place: Monterey, CA
Credit: 13 hours Category 1 AMA
Fee: $295
Info: 415/476-5808

April 9-11

Current Concepts in Vascular Surgery
Place: Philadelphia, PA
Info: Fay Zelle, Hahnemann University, Broad and Vine Streets, M.X. 623, Philadelphia, PA 19102. 215/448-8263

April 10-12

OB/GYN and Abdominal Sonography: Update '87
Place: San Francisco, CA
Credit: 14.5 hours Category 1 AMA
Fee: $325
Info: 415/476-5808

April 10-12

5th Annual MCV Symposium: New Trends in Anesthesia
Place: Williamsburg, VA
Fee: $275
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 10-12

22nd Annual Pediatric Springfest
Place: Williamsburg, VA
Fee: $250
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 12-18

Pathology Update 1987: Review of Current Concepts and New Developments
Place: Baltimore, MD
Info: American Society of Clinical Pathologists, 800/621-4142 (in IL 312/738-4890)

April 23-25

Cardiology
Place: Johnson City, TN
Info: Ramona Miller, Ph.D., Program Coordinator, Office of CME, Quillen-Dishner College of Medicine, Johnson City, TN 37614. 615/929-6204

April 23-25

23rd Annual Postgraduate Course in Radiology: The Chest
Place: Richmond, VA
Fee: $325
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 24-25

The Terminally Ill Patient: Psychological, Social, Legal, and Ethical Issues
Place: Boston, MA
Info: Harvard Medical School, Dept. of CME, Boston, MA 02115. 617/732-1525

April 24-26

9th Annual Conference on Emergency Medicine for the Primary Care Physician
Place: Williamsburg, VA
Fee: $295
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 24-26

7th Annual Clinical Concerns in Primary Care: Office Cardiology
Place: Williamsburg, VA
Fee: $295
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 27-May 2 (and March 2-7)

22nd Annual Family Practice Symposium
Place: Augusta, GA
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

April 30-May 2

Clinical Nuclear Cardiology: Case Review with the Experts
Place: Bethesda, MD
Credit: 21.5 hours Category 1 AMA
Fee: $415-465
Info: American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 800/253-4636 (in MD, 301/897-5400, ext 241)

April 30-May 3

North American Society of Pacing and Electrophysiology
Place: Boston, MA
Credit: 16 hours Category I AMA (for General Sessions)
Fee: $90-215
Info: NASPE Registration, 13 Eaton Court, Wellesley Hills, MA 02181. 617/237-1866

May 2-9

Doppler and 2-D Echocardiology
Place: Newport Beach, CA
Fee: $895 approx.
Credit: 40 hours Category I AMA
Info: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Dr., Ste. 215, Laguna Niguel, CA 92677. 714/495-4499

May 8-10

6th Annual MCV Cardiology Conference
Place: Williamsburg, VA
Fee: $325
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

May 14-16

Vascular Surgery 1987: Third International Vascular Symposium
Place: New York, NY
Fee: $400
Credit: 24 hours Category I AMA
Info: Ann J. Boehme, Assoc. Director for CME, Long Island Jewish Medical Center, New Hyde Park, NY 11042. 718/470-8650

May 18-19

14th Annual Hans Berger Day and EEG Symposium
Place: Richmond, VA
Fee: $250
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

May 19-22

Cell Calcium Metabolism '87: Physiology, Biochemistry, Pharmacology, and Clinical Implications
Place: Washington, D.C.
Info: Dr. Gary Fiskum, Dept. of Biochemistry, The George Washington University of Medicine and Health Sciences, 2300 Eye St. NW, Washington, D.C. 20037.

May 23-25

Gynecologic Urology and Pelvic Surgery
Place: Williamsburg, VA
Fee: $260
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

May 26-30

Fifth Annual Cardiology Update
Place: Honolulu, HA
Fee: $395
Info: Lisa Krehbiel, 30131 Town Center Dr., Ste. 215, Laguna Niguel, CA 92677. 714/495-4499

May 30

Tough Psychiatry Problems in Medical Practice
Place: Gatlinburg, TN
Info: Ramona Miller, Ph.D., Program Coordinator, Office of CME, Quillen-Dishner College of Medicine, Johnson City, TN 37614. 615/929-6204

June 1-5

Basic Mechanisms of Cardiovascular Diseases: Implications for Prevention and Therapy
Place: London, England
Credit: 26 hours Category I AMA
Fee: $425
Info: London Cardiology Course, Div. of CME-Vanderbilt, CCC-5326 Medical Center North, Nashville, TN 37232. 615/322-4030

June 3-7

Eleventh Annual Postgraduate Course on Rehabilitation of the Brain-Injured Adult and Child
Place: Williamsburg, VA
Fee: $285
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Station, Richmond, VA 23298-0001. 804/786-0494

June 4-6

11th Annual Update Cardiology for the Primary Physician
Place: Charleston, SC
Credit: 19 Hours Category I AMA
Fee: $335-400
Info: Registration Secretary, Extramural Programs Dept., American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 800/253-4636 (in MD and AK, 301/897-5400, ext 226)

June 9-13

4th Annual Adult Infectious Disease Seminar — Current Update
Place: Hilton Head Island, SC
Credit: 19 hours Category I AMA, AAFP
Fee: $295
Info: George M. Converse, M.D., Director, Medical Education, Lloyd Noland Hospital and Health Centers, 701 Ridgeway Rd., Fairfield, AL 35064. 800/845-6131 (in SC, 800/922-7042)

June 10-13

Post-Graduate Course: Dermatology for Non-Dermatologists
Place: Myrtle Beach, SC
Credit: 15 hours Category I AMA
Fee: $200-350
Info: Div. of Dermatology, Box 3135, Duke University Medical Center, Durham 27710. 919/684-2504

June 11-13

Current Advances in Pediatric Practice
Place: Gatlinburg, TN
Credit: 12 hours Category I/PREP, AAP, AAFP
Info: Dr. Sandra Loucks, University of Tennessee Memorial Research Center and Hospital, Dept. of Pediatrics, 1924 Alcoa Highway, Knoxville, TN 37920. 615/544-9331

June 15-17

Management of Clinically Localized Prostate Cancer
Place: Bethesda, MD
Credit: 14 hours Category I AMA
Info: Nancy Cowan, Prospect Associates, 1801 Rockville Pike, Suite 500, Rockville, MD 20852. 301/468-6555

June 15-18

18th Annual Internal Medicine Symposium
Place: Kiawah Island, SC
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

July 9-11

Clinical Obstetrics
Place: Kiawah Island, SC
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

July 13-16

Clinical Cardiology
Place: Kiawah Island, SC
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

July 17-19

Practical Internal Medicine: Selected Topics for the Internist
Place: Virginia Beach, VA
Fee: $295
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Station, Richmond, VA 23298-0001

July 22-26

Critical Care Medicine
Place: Kiawah Island, SC
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

July 27-29

Pediatric Update 1987
Place: Kiawah Island, SC
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

July 31-August 2

The 9th Annual Pediatric Primary Care Conference: Pediatrics at the Beach
Place: Virginia Beach, VA
Fee: $275
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Station, Richmond, VA 23298-0001

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J-6138 January 1986



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Endometrial hyperplasia was significantly reduced when progestin was added to PREMARIN therapy for more than ten days a month.[1-4] The risk of endometrial hyperplasia may also be reduced through cyclic administration of unopposed, low-dose PREMARIN.

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Most trusted for more reasons

*PREMARIN is indicated for moderate-to-severe vasomotor symptoms.

Please see following page for brief summary of prescribing information.

For moderate-to-severe vasomotor symptoms

PREMARIN®
(Conjugated Estrogens Tablets)



0.3 mg 0.625 mg 0.9 mg 1.25 mg 2.5 mg

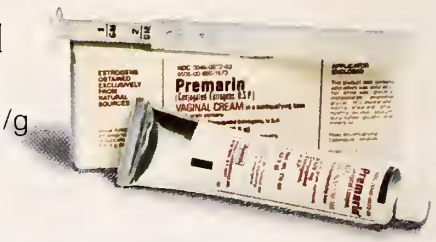
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For atrophic vaginitis

PREMARIN®
(Conjugated Estrogens)

Vaginal Cream

0.625mg/g



BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION AND PATIENT INFORMATION, SEE PACKAGE CIRCULARS.)*

PREMARIN® Brand of conjugated estrogens tablets, USP
PREMARIN® Brand of conjugated estrogens Vaginal Cream in a nonliquefying base

1. ESTROGENS HAVE BEEN REPORTED TO INCREASE THE RISK OF ENDOMETRIAL CARCINOMA.

Three independent case control studies have reported an increased risk of endometrial cancer in postmenopausal women exposed to exogenous estrogens for more than one year. This risk was independent of the other known risk factors for endometrial cancer. These studies are further supported by the finding that incidence rates of endometrial cancer have increased sharply since 1969 in eight different areas of the United States with population-based cancer reporting systems, an increase which may be related to the rapidly expanding use of estrogens during the last decade. The three case control studies reported that the risk of endometrial cancer in estrogen users was about 4.5 to 13.9 times greater than in nonusers. The risk appears to depend on both duration of treatment and on estrogen dose. In view of these findings, when estrogens are used for the treatment of menopausal symptoms, the lowest dose that will control symptoms should be utilized and medication should be discontinued as soon as possible. When prolonged treatment is medically indicated, the patient should be reassessed on at least a semiannual basis to determine the need for continued therapy. Although the evidence must be considered preliminary, one study suggests that cyclic administration of low doses of estrogen may carry less risk than continuous administration; it therefore appears prudent to utilize such a regimen. Close clinical surveillance of all women taking estrogens is important. In all cases of undiagnosed persistent or recurring abnormal vaginal bleeding, adequate diagnostic measures should be undertaken to rule out malignancy. There is no evidence at present that "natural" estrogens are more or less hazardous than "synthetic" estrogens at equiestrogenic doses.

2. ESTROGENS SHOULD NOT BE USED DURING PREGNANCY.

The use of female sex hormones, both estrogens and progestogens, during early pregnancy may seriously damage the offspring. It has been shown that females exposed in utero to diethylstilbestrol, a non-steroidal estrogen, have an increased risk of developing in later life a form of vaginal or cervical cancer that is ordinarily extremely rare. This risk has been estimated as not greater than 4 per 1,000 exposures. Furthermore, a high percentage of such exposed women (from 30% to 90%) have been found to have vaginal adenosis, epithelial changes of the vagina and cervix. Although these changes are histologically benign, it is not known whether they are precursors of malignancy. Although similar data are not available with the use of other estrogens, it cannot be presumed they would not induce similar changes. Several reports suggest an association between intrauterine exposure to female sex hormones and congenital anomalies, including congenital heart defects and limb reduction defects. One case control study estimated a 4.7-fold increased risk of limb reduction defects in infants exposed in utero to sex hormones (oral contraceptives, hormone withdrawal tests for pregnancy, or attempted treatment for threatened abortion). Some of these exposures were very short and involved only a few days of treatment. The data suggest that the risk of limb reduction defects in exposed fetuses is somewhat less than 1 per 1,000. In the past, female sex hormones have been used during pregnancy in an attempt to treat threatened or habitual abortion. There is considerable evidence that estrogens are ineffective for these indications, and there is no evidence from well controlled studies that progestogens are effective for these uses. If PREMARIN is used during pregnancy, or if the patient becomes pregnant while taking this drug, she should be apprised of the potential risks to the fetus, and the advisability of pregnancy continuation.

DESCRIPTION: PREMARIN (conjugated estrogens, USP) contains a mixture of estrogens, obtained exclusively from natural sources, blended to represent the average composition of material derived from pregnant mares' urine. It contains estrone, equilin, and 17α-dihydroequilin, together with smaller amounts of 17α-estradiol, equilenin, and 17α-dihydroequilenin as salts of their sulfate esters. Tablets are available in 0.3 mg, 0.625 mg, 0.9 mg, 1.25 mg, and 2.5 mg strengths of conjugated estrogens. Cream is available as 0.625 mg conjugated estrogens per gram.

INDICATIONS AND USAGE: PREMARIN (conjugated estrogens tablets, USP): Moderate-to-severe *vasomotor* symptoms associated with the menopause. (There is no evidence that estrogens are effective for nervous symptoms or depression without associated vasomotor symptoms and they should not be used to treat such conditions.) **Osteoporosis (abnormally low bone mass).** Atrophic vaginitis. Kraurosis vulvae. Female castration.

PREMARIN (conjugated estrogens) Vaginal Cream is indicated in the treatment of atrophic vaginitis and kraurosis vulvae. PREMARIN HAS NOT BEEN SHOWN TO BE EFFECTIVE FOR ANY PURPOSE DURING PREGNANCY AND ITS USE MAY CAUSE SEVERE HARM TO THE FETUS (SEE BOXED WARNING).

Concomitant Progestin Use: The lowest effective dose appropriate for the specific indication should be utilized. Studies of the addition of a progestin for 7 or more days of a cycle of estrogen administration have reported a lowered incidence of endometrial hyperplasia. Morphological and biochemical studies of the endometrium suggest that 10 to 13 days of progestin are needed to provide maximal maturation of the endometrium and to eliminate any hyperplastic changes. Whether this will provide protection from endometrial carcinoma has not been clearly established. There are possible additional risks which may be associated with the inclusion of progestin in estrogen replacement regimens. (See PRECAUTIONS.) The choice of progestin and dosage may be important; product labeling should be reviewed to minimize possible adverse effects.

CONTRAINDICATIONS: Estrogens should not be used in women (or men) with any of the following conditions: 1. Known or suspected cancer of the breast except in appropriately selected patients being treated for metastatic disease. 2. Known or suspected estrogen-dependent neoplasia 3. Known or suspected pregnancy (See Boxed Warning). 4. Undiagnosed abnormal genital bleeding. 5. Active thrombophlebitis or thromboembolic disorders 6. A past history of thrombophlebitis, thrombosis, or thromboembolic disorders associated with previous estrogen use (except when used in treatment of breast or prostatic malignancy).

WARNINGS: Long-term continuous administration of natural and synthetic estrogens in certain animal species increases the frequency of carcinomas of the breast, cervix, vagina, and liver. There are now reports that estrogens increase the risk of carcinoma of the endometrium in humans. (See Boxed Warning.) At the present time there is no satisfactory evidence that estrogens given to postmenopausal women increase the risk of cancer of the breast, although a recent study has raised this possibility. There is a need for caution in prescribing estrogens for women with a strong family history of breast cancer or who have breast nodules, fibrocystic disease, or abnormal mammograms. A recent study has reported a 2- to 3-fold increase in the risk of surgically confirmed gallbladder disease in women receiving postmenopausal estrogens.

Adverse effects of oral contraceptives may be expected at the larger doses of estrogen used to treat prostatic or breast cancer or postpartum breast engorgement; it has been shown that there is an increased risk of thrombosis in men receiving estrogens for prostatic cancer and women for postpartum breast engorgement. Users of oral contraceptives have an increased risk of diseases, such as thrombophlebitis, pulmonary embolism, stroke, and myocardial infarction. Cases of retinal thrombosis, mesenteric thrombosis, and optic neuritis have been reported in oral contraceptive users. An increased risk of postsurgery thromboembolic complications has also been reported in users of oral contraceptives. If feasible, estrogen should be discontinued at least 4 weeks before surgery of the type associated with an increased risk of thromboembolism, or during periods of prolonged immobilization. Estrogens should not be used in persons with active thrombophlebitis, thromboembolic disorders, or in persons with a history of such disorders in association with estrogen use. They should be used with caution in patients with cerebral vascular or coronary artery disease. Large doses (5 mg conjugated estrogens per day), comparable to those used to treat cancer of the prostate and breast, have been shown to increase the risk of nonfatal myocardial infarction, pulmonary embolism and thrombophlebitis. When doses of this size are used, any of the thromboembolic and thrombotic adverse effects should be considered a clear risk.

Benign hepatic adenomas should be considered in estrogen users having abdominal pain and tenderness, abdominal mass, or hypovolemic shock. Hepatocellular carcinoma has been reported in women taking estrogen-containing oral contraceptives. Increased blood pressure may occur with use of estrogens in the menopause and blood pressure should be monitored with estrogen use. A worsening of glucose tolerance has been observed in patients on estrogen-containing oral contraceptives. For this reason, diabetic patients should be carefully observed. Estrogens may lead to severe hypercalcemia in patients with breast cancer and bone metastases.

PRECAUTIONS: Physical examination and a complete medical and family history should be taken prior to the initiation of any estrogen therapy with special reference to blood pressure, breasts, abdomen, and pelvic organs, and should include a Papanicolaou smear. As a general rule, estrogen should not be prescribed for longer than one year without another physical examination being performed. Conditions influenced by fluid retention such as asthma, epilepsy, migraine, and cardiac or renal dysfunction, require careful observation. Certain patients may develop manifestations of excessive estrogenic stimulation, such as abnormal or excessive uterine bleeding, mastodynia, etc. Prolonged administration of unopposed estrogen therapy has been reported to increase the risk of endometrial hyperplasia in some patients. Oral contraceptives appear to be associated with an increased incidence of mental depression. Patients with a history of depression should be carefully observed. Preexisting uterine leiomyomata may increase in size during estrogen use. The pathologist should be advised of estrogen therapy when relevant specimens are submitted. If jaundice develops in any patient receiving estrogen, the medication should be discontinued while the cause is investigated. Estrogens should be used with care in patients with impaired liver function, renal insufficiency, metabolic bone diseases associated with hypercalcemia, or in young patients in whom bone growth is not complete. If concomitant progestin therapy is used, potential risks may include adverse effects on carbohydrate and lipid metabolism.

The following changes may be expected with larger doses of estrogen:

a. Increased sulfobromophthalein retention.

b. Increased prothrombin and factors VII, VIII, IX, and X; decreased antithrombin 3; increased norepinephrine-induced platelet aggregability.

c. Increased thyroid binding globulin (TBG) leading to increased circulating total thyroid hormone, as measured by PBI, T4 by column, or T4 by radioimmunoassay. Free T3 resin uptake is decreased, reflecting the elevated TBG; free T4 concentration is unaltered.

d. Impaired glucose tolerance.

e. Decreased pregnanediol excretion.

f. Reduced response to metyrapone test.

g Reduced serum folate concentration.

h. Increased serum triglyceride and phospholipid concentration. As a general principle, the administration of any drug to nursing mothers should be done only when clearly necessary since many drugs are excreted in human milk.

ADVERSE REACTIONS: The following have been reported with estrogenic therapy, including oral contraceptives: breakthrough bleeding, spotting, change in menstrual flow; dysmenorrhea; premenstrual-like syndrome; amenorrhea during and after treatment; increase in size of uterine fibromyomata; vaginal candidiasis, change in cervical erosion and in degree of cervical secretion; cystitis-like syndrome; tenderness, enlargement, secretion (of breasts); nausea, vomiting, abdominal cramps, bloating; cholestatic jaundice; chloasma or melasma which may persist when drug is discontinued; erythema multiforme; erythema nodosum; hemorrhagic eruption; loss of scalp hair; hirsutism; steepening of corneal curvature; intolerance to contact lenses; headache, migraine, dizziness, mental depression, chorea; increase or decrease in weight; reduced carbohydrate tolerance; aggravation of porphyria; edema; changes in libido.

ACUTE OVERDOSAGE: May cause nausea, and withdrawal bleeding may occur in females.

DOSAGE AND ADMINISTRATION:

PREMARIN® Brand of conjugated estrogens tablets, USP

1. *Given cyclically for short-term use only.* For treatment of moderate to severe *vasomotor* symptoms, atrophic vaginitis, or kraurosis vulvae associated with the menopause (0.3 to 1.25 mg or more daily). The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible. Administration should be cyclic (eg, three weeks on and one week off). Attempts to discontinue or taper medication should be made at three- to six-month intervals.

2. *Given cyclically:* Female castration. Osteoporosis. Female castration—1.25 mg daily, cyclically. Adjust upward or downward according to response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control. Osteoporosis —0.625 mg daily. Administration should be cyclic (eg, three weeks on and one week off).

Patients with an intact uterus should be monitored for signs of endometrial cancer and appropriate measures taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

PREMARIN® Brand of conjugated estrogens Vaginal Cream

Given cyclically for short-term use only. For treatment of atrophic vaginitis or kraurosis vulvae.

The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible.

Administration should be cyclic (eg, three weeks on and one week off).

Attempts to discontinue or taper medication should be made at three-to-six month intervals.

Usual dosage range: 2 to 4 g daily, intravaginally, depending on the severity of the condition.

Treated patients with an intact uterus should be monitored closely for signs of endometrial cancer and appropriate diagnostic measures should be taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

References:

1. Whitehead MI, Townsend PT, Pryse-Davies J, et al: Effects of estrogens and progestins on the biochemistry and morphology of the postmenopausal endometrium. *N Engl J Med* 1981;305:1599-1605 **2.** Paterson MEL, Wade-Evans T, Sturdee DW, et al: Endometrial disease after treatment with oestrogens and progestogens in the climacteric. *Br Med J* 1980;280:822-824. **3.** Magos AL, Brincat M, Studd JWW, et al: Amenorrhea and endometrial atrophy with continuous oral estrogen and progestogen therapy in postmenopausal women. *Obstet Gynecol* 1985; 67: 496-499. **4.** Whitehead MI, Lane G, Siddle N, et al: Avoidance of endometrial hyperstimulation in estrogen-treated postmenopausal women. *Semin Reprod Endocrinol* 1983;1:1;41-52. **5.** Barnes RB, Roy S, Lobo RA: Comparison of lipid and androgen levels after conjugated estrogen or depo-medroxyprogesterone acetate treatment in postmenopausal women. *Obstet Gynecol* 1985;66:216-219.

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Letters to the Editor

From the State Surgeon, North Carolina Army National Guard

To North Carolina Physicians:

For thirty years I have enjoyed a combined medical practice of civilian and military by belonging to the North Carolina National Guard. During this period I have observed our civilian physician numbers increase to the point of oversupply while physicians practicing military medicine in the militia of our state have been steadily decreasing in numbers.

This creates a shortage of physicians serving our own North Carolina guardsmen, some thirteen thousand of them, places our guardsmen at increased risk when they are in training status, deprives our physicians of the opportunities and experiences associated with field medicine, deprives our physicians of the varied experiences associated with travel to distant states and to foreign countries in training status, and deprives our physicians of the satisfaction of supporting our nation, state, and more especially our guardsmen neighbors as they serve their country, and finally, denies themselves a very substantial addition to their own retirement income. In some needed specialties, the guard can help by repaying up to $20,000 in medical school education loans.

I am and have been a guardsman by choice. I was not at risk of the draft or any other pressures when I applied and accepted a commission in the Medical Corps in the North Carolina National Guard. There are many ways to serve one's nation. I chose this way. If any North Carolina physicians are interested in serving their fellowman and their country and at the same time being richly rewarded tangibly and intangibly, I urge them to contact Captain Regan or Sergeant First Class Denison at 919/733-3770, Ext 213 or 1-800/662-1872, and discuss their situation and their opportunities.

"Every professional owes something of himself to his country."

Corbett L. Quinn, M.D., State Surgeon
North Carolina Army National Guard
P.O. Box 189
Magnolia, NC 28453-0189

To the Editor:

The Pediatric Branch of the National Cancer Institute is seeking the referral of pediatric patients with cancer for the evaluation of several new treatment programs.

A variety of innovative treatment protocols has been developed for patients with either newly diagnosed or previously treated childhood malignancies.

We are interested in seeing newly diagnosed patients with acute leukemia, Hodgkins and non-Hodgkins lymphoma, rhabdomyosarcoma, osteogenic sarcoma and Ewing's sarcoma (or other bony or soft tissue sarcomas). Previously treated patients with these and other diagnoses (including primary and metastatic CNS malignancies) may be eligible for treatment.

Clinical protocols emphasize new and experimental treatment approaches including high dose chemotherapy, autologous bone marrow rescue, and Phase I and Phase II studies of new chemotherapeutic agents and biological response modifiers, including interleukin. Selected patients with refractory malignancies (e.g., leukemia) who do not have an appropriate HLA match may be eligible for a new bone marrow transplantation program evaluating the feasibility of transplanting bone marrow from an unrelated, MHC un-matched donor which has been treated to eliminate T cell contamination.

Our program stresses close communication and cooperation with referring physicians. Every effort is made to keep you fully informed as to the status of your patients and in most situations patients will promptly return to your care for joint follow-up in collaboration with the National Cancer Institute. In this way, the limited number of children with cancer can be enrolled in the clinical research process while being cared for in their home community.

Patients must be willing to travel to the Clinical Center initially and at periodic intervals. There is no charge to the patient for medical, surgical or other hospital services rendered as the necessary part of their participation in our clinical research protocols.

To refer a patient or to obtain further information, please call or write:

Philip A. Pizzo, M.D.
Chief, Pediatric Branch
National Cancer Institute
Building 10 — Room 13N240
Bethesda, MD 20892
301/496-4256 (Collect)

A Follow-up on a Case Report

To the Editor:

In the September 1986 issue of the NCMJ we described a 36-year-old woman with acute nonlymphocytic leukemia (ANLL) who had strong clinical and pathologic evidence that she had been "cured" of hepatic candidiasis (Powell BL, Jackson DV Jr, Craig JB, Richter JE, Capizzi RL, Cure of Hepatic Candidiasis in Acute Leukemia, 1986;47:393-5). In brief, following successful induction therapy, this patient had hepatic (and probable splenic) candidiasis doc-

umented by CT Scan and laparoscopy with directed liver biopsies. She was treated with a prolonged course of amphotericin B and 5-fluorocytosine. Clinical response to therapy was confirmed by gradual improvement in the radiographic abnormalities, negative laparoscopy with directed liver biopsies on two separate occasions, and two successful reinductions for relapsed ANLL without evidence of recurrent hepatosplenic candidiasis despite prolonged periods of granulocytopenia. At the time the manuscript was submitted, the patient had just completed a fourth induction attempt and remained free of evidence of hepatic disease over 30 months after diagnosis of hepatic candidiasis. Despite achieving transient fourth and fifth responses to induction chemotherapy, the patient subsequently died from an intracerebral hemorrhage during her seventh induction attempt (39 months after diagnosis of hepatic candidiasis). Permission for autopsy was granted; findings included multiple well-demarcated partially calcified nodules in the liver, spleen and kidneys. Microscopically, these nodules consisted of areas of coagulation necrosis encapsulated by fibrous connective tissue; Gomori methenamine silver stain showed small numbers of budding yeasts with pseudohyphae within the areas of necrosis. Cultures of the areas grew *Candida albicans*.

It is impossible to determine whether these calcified granulomatous foci represent old deposits of *Candida albicans* successfully walled off by host defenses and were of no clinical significance, chronic smoldering infection, or reinfection since the original diagnosis and treatment of hepatic ± splenic candidiasis over three years earlier. In any case, these findings further emphasize the difficulty of eradicating visceral Candida infections in a patient with acute leukemia.

Bayard L. Powell, M.D.
Don V. Jackson, Jr., M.D.
Paula E. Szypko, M.D.
Department of Medicine
Bowman Gray School of Medicine
Wake Forest University
300 South Hawthorne Road
Winston-Salem 26103

To the Editor:

Your recent article in the *North Carolina Medical Journal* (Happy, Communicative and Understanding Doctors — The Roles of "Humanities" and Bioscience, 1986;47:561-2) has occupied my thoughts a great deal during my Christmas vacation and I feel compelled to respond to several of your points before I begin my next rotation at Duke University Medical School. Whereas I essentially agree with your observation that course content and the behavior of doctors are poorly correlated and find your four goals of a general education to be adequate, I believe out of my own experience as a religion and English major at UNC-Chapel Hill that study of the humanities has some very specific contributions to offer the would-be physician.

In our science-influenced modern compulsion to classify and speciate all things, education at the university level has been divided into various departments and disciplines such that the different systems of learning and knowing are often separated from one another. This separation filters down to the structure of the university teaching system itself. The scientific method, with its heavy emphasis on factual information gathered from observation and quantitation becomes enshrined in the natural and social science departments. Other methods of knowing and learning, such as critical analysis and argument, are often the domain of the humanities departments at the undergraduate level. The student who focuses his or her energies very exclusively in the sciences will likely spend his or her four years at college learning an enormous body of facts that have been accumulated as a direct result of the application of the scientific method. He or she will learn in the lab the skills necessary to quantify repeatable observations. His or her examinations will consist mostly of true-false, multiple choice, and short answer questions with specific answers that are either right or wrong. Upon graduation this student should have an excellent grasp of bioscience and its implications for what it is to be human and what we can achieve as humans using the enormous tools of the scientific method.

The student of the humanities is likely to have a very different kind of education. He or she will spend a great deal of time reading and analyzing other people's subjective opinions on a wide variety of subjects such as literature, history, art, and philosophy. Much less energy is likely to be spent on learning objective facts and more is spent critically analyzing various arguments and learning to understand what a specific perspective or approach can teach. This student is likely to be evaluated by his or her ability to write various papers and essays conveying his or her own analysis of what has been read and discussed in class. Or this student may be evaluated by his or her ability to effectively communicate in a foreign language or in one of the fine arts. When he or she graduates, this student should understand that any system of knowledge has its own set of questions with its own built-in answers which are best evaluated by comprehending the system as a whole and asking what such a system can offer to enrich our understanding of what it is to be human.

It is clear that both skills taught in the humanities departments of universities and those taught in the science departments have very important contributions to offer to those students interested in being physicians as well as any person seeking an integrated quality education. What has been a concern to some observers in recent years is the heavy emphasis many pre-medical students place upon the natural sciences to the exclusion of other courses. This is a legitimate concern, for a physician who has not acquired the basic skills of analysis and critical thinking cannot effectively approach the diagnosis and treatment of the patients he or she desires to serve. In simple terms these analytic skills are often taught in the undergraduate curricula of our universities most effectively in the humanities departments. To prove my hypothesis go to any university on

any day and objectively measure the amount of discussion in a literature or history class and compare it with that in the local physical chemistry class discussing, say, the laws of thermodynamics. If discussion-level correlates with the amount of active thinking occurring, as I believe it does, then more often than not my point will be proven. The lecture-style format used so extensively in the undergraduate teaching of the sciences seldom encourages any more vigorous mental excercise in the classroom than passive listening and frantic note-taking.

A second point with which I disagree strongly is the assumption that an understanding of the biological basis for behavior will somehow allow a doctor to more effectively communicate with his patients or to become more tolerant of their behavior. Recent history teaches us that the increase in technical knowledge does not correspond with an increased capacity for tolerance on the part of the human race. An understanding of bioscience is only one part of the overall contribution that the many methods of knowing and learning can contribute to the possibility of more tolerance and better communication. The relationship between a doctor and his or her patient may perhaps be improved by the awareness on the part of the doctor of "the wide differences in brain anatomy and the effects of those differences on the behavior of the patient," but so too may the relationship perhaps be improved by an understanding on the part of the doctor of the patient's religious, cultural, or social history and what these factors may reveal about the patient's values as they pertain to his or her own health.

With expertise in the biosciences without any understanding of the humanities a physician is merely a highly-paid technician. Likewise an understanding of the humanities without knowledge of the observations and principles upon which medical science is built is inadequate for the important role of the physician in our society. At a time when the role of the physician in changing daily, when health care costs are gobbling up larger and larger amounts of our gross national product, when medical science is growing exponentially and creating ethical and economic quagmires with each new discovery, the physician's duty as "good citizen" necessitates broader educational skills than just those being taught in our undergraduate science departments today. Any students who believe pre-medical education stops at the chemistry lab doors may find themselves inadequately prepared for the impending changes in the health professions and their ability to help shape them.

Grace Emerson Terrell
Medical Student
DUMC class of '89

To Grace Emerson Terrell:

I enjoyed reading your thoughtful and well phrased letter. I agree that the non-biologist can learn by experience the many and varied reactions between people. Unfortunately the non-biologist can only be descriptive. Not knowing the biologic basis of behavior, the explanations for differences will remain unclear and mystical. Differences in brains are the basis for differences in behavior. Science is slowly defining these structural differences. Instruction in this area is more likely to facilitate the development of doctors who are interested in people, tolerant of their differences and able to communicate with persons of varied backgrounds than any number of courses in the humanities.

I hope that we will continue this discussion over the years that you are at Duke.

Eugene A. Stead, Jr., M.D.
Editor, North Carolina Medical Journal

Responses to Dr. Crist's article and the letters to the editor that it prompted

Editor's note: For our physicians in the Western part of the state who may have missed the following article, we reprint it with permission from the Associated Press.

GREENSBORO (AP)—A *North Carolina Medical Journal* editorial (Sobering Thoughts, 1986;47:511) urging doctors to counter opposition toward sex education, birth control and abortion has drawn angry replies.

The editorial, written by Dr. Takey Crist of the Crist Clinic for Women in Jacksonville, said the foundation laid down by such groups as Planned Parenthood was "being crippled by our government, the fundamentalists, the Catholic hierarchy and our litigious society." It said those "forces, working together, are destroying our patients' rights to reproductive freedom."

Crist, an obstetrician and former professor of obstetrics and gynecology at the University of North Carolina at Chapel Hill, told the Greensboro News & Record that he had written the editorial to show doctors that many health care issues affecting women and infants had been tangled up by the "politicizing and emotionalization" of sex education, birth control and abortion.

But critics contend that although the editorial is signed by Crist and his colleagues at the Crist Clinic, it appears also to be the view of the journal and, thus, the position of the state's 7,263-member Medical Society.

"About all it accomplished was to enable some more venom to be spit out," said Dr. Stephen J. Naso, a Charlotte surgeon who wrote a critical letter to the journal. He said "bigotry is at the basis of this, not religion."

Among the seven published letters (NCMJ 1987;48:45-7) severely criticizing the editorial was one from the Rev. John F. Donoghue, Catholic bishop of the Charlotte Diocese.

"The Church never has attempted to dictate to members what political stands they should take," Donoghue wrote.

Dr. Robert W. Prichard, chief of pathology at the Bowman Gray School of Medicine in Winston-Salem,

defended the right of the journal and the physicians to publish the article. He wrote in a letter that "the pope and other Roman Catholics are not shy about stating their opinions."

In an interview, Prichard, a member of the journal editorial board, said the reaction was predictable.

"There are a lot of angry people out there," he said. "Look at all the money Jesse Helms gets. I think it comes from angry, outraged people." Helms, a Republican, is a U.S. senator from North Carolina.

Crist said he was surprised by the furor the more recent editorial has created.

"You do abortions and you get death threats," he said. "Abortion clinics get bombed. These people call you murderers. If you try to encourage school boards to have responsible sex education, they accuse you of promoting pornography and being a sex maniac. Most doctors' practices can't take that, but I think it's time to act together."

The journal's editor, Dr. Eugene Stead, Duke University emeritus professor of medicine, said no apology or retraction was warranted or would be forthcoming.

Stead said his view of the controversy was that "certainly the Catholic Church does seem to complicate these (reproduction) problems for doctors caring for people."

The editorial, Stead said, does not represent the views of the medical journal or its sponsoring society. Not to have published the piece would have been censorship, Stead said.

To the Editor:

In a curiously deceptive if not naïve disavowal of editorial responsibility for what amounts to a singular denunciation of the Catholic Church and certain Protestant groups, the *North Carolina Medical Journal* justifies its November 1986 editorial by Crist et al on the basis of the Journal's policy of freedom of expression by its contributors.

It is difficult to believe that a contribution dealing with a sensitive social issue would be highlighted as an editorial rather than a letter if there were not at least sympathy with the viewpoint expressed. By editorializing an incendiary statement which seeks substantiation (both in the original and authors' response) by reference to extremist critics of the Church, the Journal seriously undermines its editorial credibility.

Stephen D. Mumford was dismissed in 1983 as a research scientist for Family Health International in North Carolina because of unwanted notoriety related to extreme criticisms of the Catholic Church. The Catholic League for Religious and Civil Rights, patterned after the Jewish Anti-Defamation League, characterizes Mumford's statements as exhibiting a "breathtakingly paranoid hatred of the Catholic Church."[1]

Daniel Maguire, referred to in the authors' response, is an ex-priest and at most a peripheral Catholic theologian. He is best known for his advocacy of outright active euthanasia[2] and can hardly be invoked as a reasoned moderate with respect to his views of the Church.

The sponsoring of an editorial places a distinct responsibility on the editorial staff of a journal to ensure a modicum of balance and fairness which was lacking in this instance.

Robert K. Nixon, M.D.
Clinical Professor of Medicine
Univ. of North Carolina
School of Medicine

References

1 Schwartz M. The persistent prejudice: anti-Catholicism in America. Our Sunday Visitor, Inc., 1984.
2 Kohl M., ed. Beneficent euthanasia. Prometheus Books, 1975.

Two responses concerning Bishop Donoghue's letter

To the Editor:

The Catholic Church's Bishop Donoghue says, "the Church never has attempted to dictate to members what political stands they should take"(NCMJ 1987;48:46).

The abortion issue is a political stand, as witnessed by the Supreme Court rulings on abortion, the opposition to abortion by conservative Republicans and the support of abortion by liberal Democrats.

There has never been a more politically oriented religious group than the Catholic Church.

I would hazard a guess that most of the doctors who oppose your editorial on sex education, birth control and abortion are Catholics.

George A. Yelverton, Jr.
3910 Manila Road
Greensboro 27406

To the Editor:

I am writing in answer to the letter to you from Bishop John F. Donoghue of Charlotte, which states, "the Church has never attempted to dictate to its members what political stands they should take." This is untrue.

Increasingly in the last decade, many Catholic dioceses and parishes in their official church papers have printed lists of political candidates to support or vote against. Such dictates are in violation of Sec. 501-c-3 of the U.S. Tax Code. ARM's (Abortion Rights Mobilization) federal court case charging the bishops with violations and the IRS for not enforcing the law has been in court for six years. In June, 1986, the U.S. District Court in New York held the Catholic bishops in "contempt of court" for not turning over documents, and fined them $100,000 a day, stayed on appeal to the U.S. Circuit.

A few examples of these violations: 1) *Today's Catholic* of the San Antonio (Tex.) archdiocese on May 2, 1980, printed a list of candidates to support or oppose; 2) The *St. Cloud (Minn.) Visitor* on Aug. 17, 1978 and on other dates published similar lists of candidates; 3) St. Mary of Mercy Church, Our Lady of Loreto Church and others in the Pittsburgh area attacked Congressional candidates in the 1978

elections; 4) Cardinal Medeiros of Boston and Msgr. Leo Battista of Worcester, Mass. attacked Congressional candidates in the Sept., 1980, primaries. These are just a few of scores of examples — mainly attacking candidates for their abortion rights stands — that are being used as evidence in ARM's lawsuit.

Lawrence Lader, President
Abortion Rights Mobilization
175 Fifth Avenue, Suite 814
New York, NY 10010

Dr. Styron's reply to Dr. Stella:

Thank you very much for your letter which I have just received (published in NCMJ 1987;48:99). I appreciate your thoughts on these matters.

Rather than repeat my own ideas, which have been recorded (NCMJ 1987;48:47), I wish you would read the Letters to the Editor in the January issue of the *North Carolina Medical Journal*.

In the meantime I have asked each member of the Editorial Board to write a letter to the editor with his or her impressions on the article and on the Letters to the Editor.

Charles W. Styron, M.D.
Chairman, NCMJ Editorial Board
615 St. Mary's Street
Raleigh 27605

To the Editor:

The question concerning Dr. Crist's "editorial" in the November issue is not so much the opinions expressed or the accuracy thereof but whether opinions expressed in editorials actually reflect editorial policy. Despite disclaimers in the Bylaws of the North Carolina Medical Society, I suspect that most readers of the Journal consider editorials as reflecting the opinions and policies of the publication. Accordingly, it would seem appropriate to publish "editorials" on controversial subjects in the letter section unless the views expressed are in fact the official position of the publication.

Jack Hughes, M.D.
Member, NCMJ Editorial Board
The Coppridge Urologic Group, P.A.
923 Broad Street
Durham 27705

To the Editor:

I write to let you know — and anyone else who may wish to — that I — as a member of the Editorial Board — wholeheartedly endorse your stance (see Response from the Editor, NCMJ 1987;48:47) in the matter of the signed editorial by Doctor Crist et al.

William B. Blythe, M.D.
Member, NCMJ Editorial Board
The University of North Carolina
School of Medicine
Old Clinic Building 226 H
Chapel Hill 27514

In appreciation of "Hole in the Head" Article

To Dr. Linzer:

I enjoyed reading your paper from the *North Carolina Medical Journal,* in January 1987, "Eosinophilic Granuloma" (Darrow D. and Linzer M.; 48:15). I have been interested in this since I wrote the third paper of my career and published it in the very first issue of the *Journal of Neurosurgery* in 1944. The patient I operated on was a man who had come under my care at one of the Army hospitals in 1943 and subsequently was transferred to Pete Campbell who did a cranioplasty on him. Your coverage of this problem was very good.

Eban Alexander, Jr., M.D.
Bowman Gray School of Medicine
Department of Surgery
300 South Hawthorne Road
Winston-Salem 27103

Study Announcement

A study testing the effectiveness of ranitidine in the treatment of esophagitis is being conducted by the Division of Digestive Diseases at the University of North Carolina at Chapel Hill. We are actively recruiting patients with symptomatic reflux esophagitis to be involved in this six-month study. Evaluation and treatment during the study will be done at no cost to the patient. In addition, patients will be reimbursed for travel expenses. If you have a patient who may be interested or have any questions about the study, please contact the Division of Digestive Diseases at 919/966-2511. We appreciate your assistance in informing others of this study.



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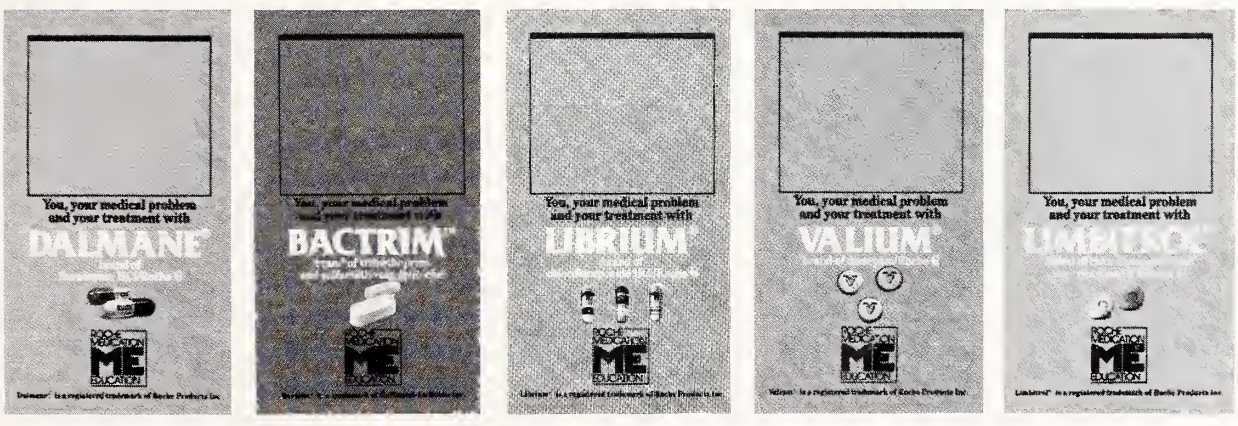
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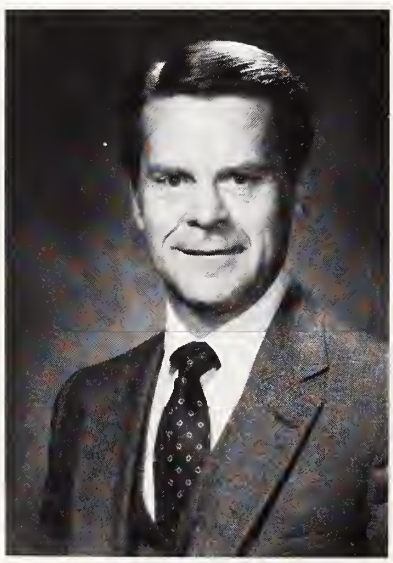
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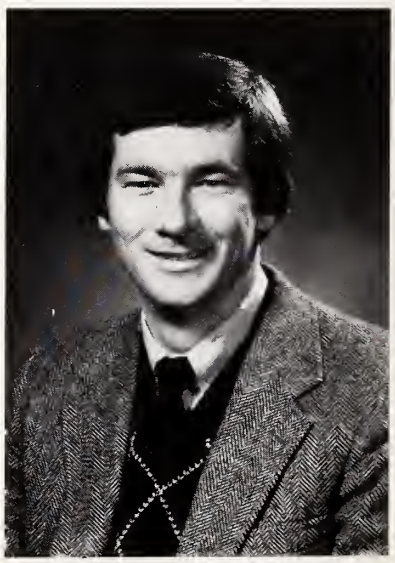
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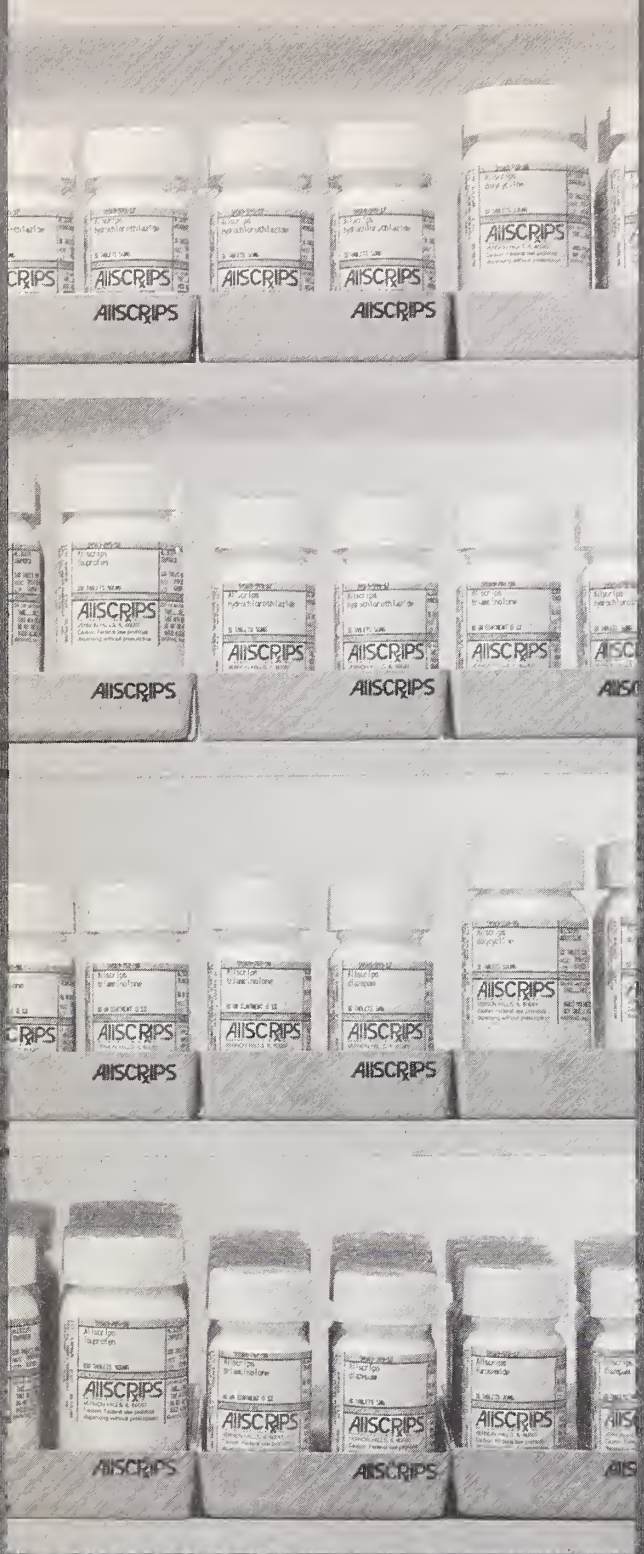
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FOR DOCTORS AND THEIR PATIENTS

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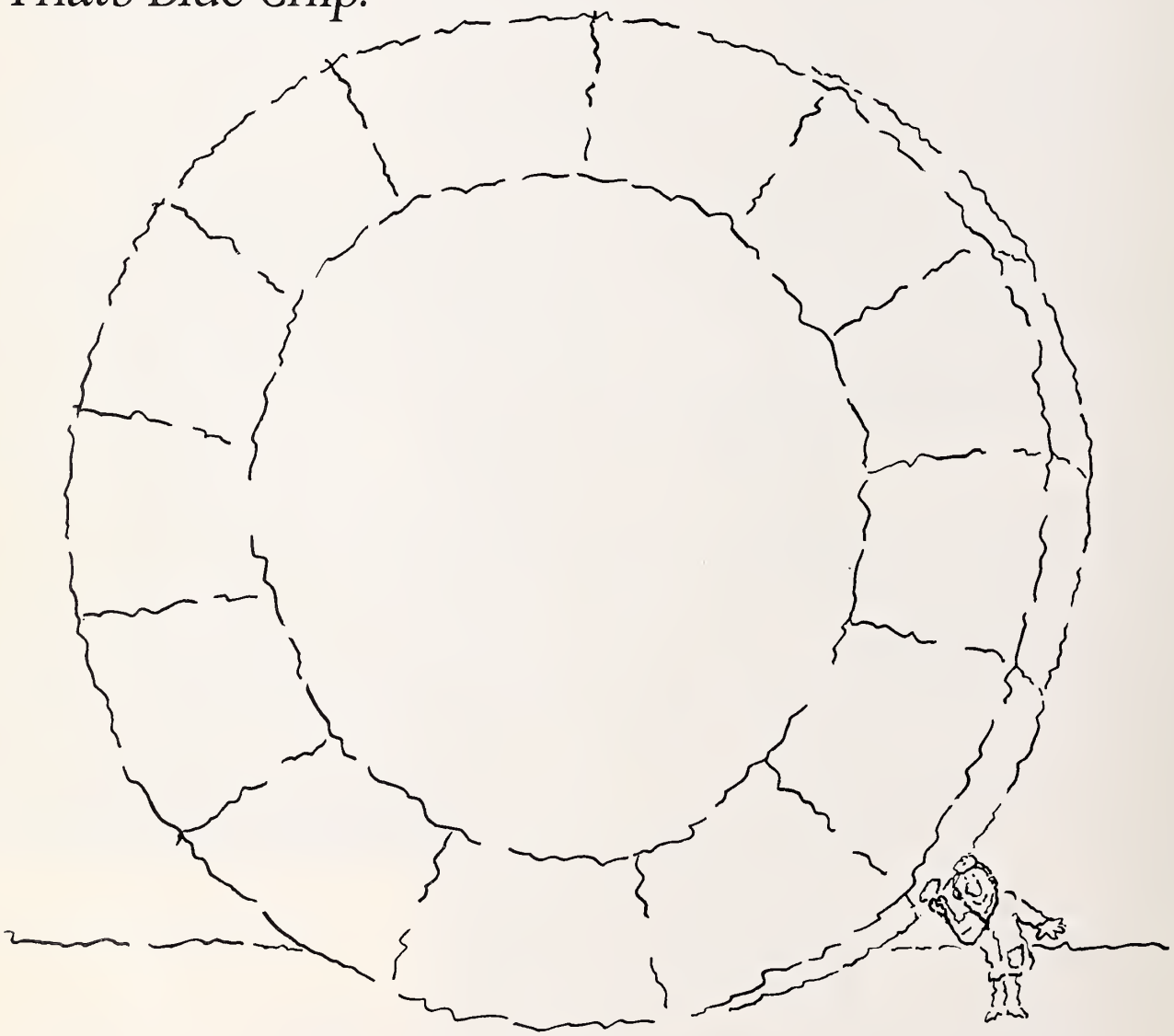
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GRAM-NEGATIVE AEROBES: Enterobacter aerogenes, Enterobacter cloacae, Escherichia coli, Haemophilus influenzae (including ampicillin-resistant strains), *H. parainfluenzae, Klebsiella* species (including *K. pneumoniae*), *Neisseria gonorrhoeae* (including penicillinase and nonpenicillinase producing strains), *Neisseria meningitidis, Proteus mirabilis, Proteus vulgaris, Morganella morganii* and *Serratia marcescens.*

Note: Many strains of the above organisms that are multiply resistant to other antibiotics, e.g., penicillins, cephalosporins and aminoglycosides, are susceptible to ceftriaxone sodium.

Ceftriaxone is also active against many strains of *Pseudomonas aeruginosa.*

GRAM-POSITIVE AEROBES: Staphylococcus aureus (including penicillinase-producing strains) and *Staphylococcus epidermidis* (Note: methicillin-resistant staphylococci are resistant to cephalosporins, including ceftriaxone), *Streptococcus pyogenes* (Group A beta-hemolytic streptococci), *Streptococcus agalactiae* (Group B streptococci) and *Streptococcus pneumoniae.* (Note: Most strains of enterococci, *Streptococcus faecalis* and Group D streptococci are resistant.)

Ceftriaxone also demonstrates *in vitro* activity against the following microorganisms, although the clinical significance is unknown:

GRAM-NEGATIVE AEROBES: Citrobacter freundii, Citrobacter diversus, Providencia species (including *Providencia rettgeri*), *Salmonella* species (including *S. typhi*), *Shigella* species and *Acinetobacter calcoaceticus.*

ANAEROBES: Bacteroides species, *Clostridium* species (Note: most strains of *C. difficile* are resistant).

SUSCEPTIBILITY TESTING. Standard susceptibility disk method. Quantitative methods that require measurement of zone diameters give the most precise estimate of antibiotic susceptibility. One such procedure (Bauer AW, Kirby WMM, Sherris JC, Turck M: Antibiotic Susceptibility Testing by a Standardized Single Disk Method, *Am J Clin Pathol 45*:493-496, 1966, Standardized Disk Susceptibility Test, *Federal Register 39*:19182-19184, 1974, National Committee for Clinical Laboratory Standards, Approved Standard. ASM-2, Performance Standards for Antimicrobial Disk Susceptibility Tests, July 1975.) has been recommended for use with disks to test susceptibility to ceftriaxone.

Laboratory results of the standardized single-disk susceptibility test using a 30-*mcg* ceftriaxone disk should be interpreted according to the following three criteria:

1. Susceptible organisms produce zones of 18 mm or greater, indicating that the tested organism is likely to respond to therapy.
2. Organisms that produce zones of 14 to 17 mm are expected to be susceptible if a high dosage (not to exceed 4 gm per day) is used or if the infection is confined to tissues and fluids (e.g., urine), in which high antibiotic levels are attained.
3. Resistant organisms produce zones of 13 mm or less, indicating that other therapy should be selected.

Organisms should be tested with the ceftriaxone disk, since ceftriaxone has been shown by *in vitro* tests to be active against certain strains found resistant to cephalosporin class disks.

Organisms having zones of less than 18 mm around the cephalothin disk are not necessarily of intermediate susceptibility or resistant to ceftriaxone.

Standardized procedures require use of control organisms. The 30-mcg ceftriaxone disk should give zone diameters between 29 and 35 mm, 22 and 28 mm and 17 and 23 mm for the reference strains *E. coli* ATCC 25922, *S. aureus* ATCC 25923 and *P. aeruginosa* ATCC 27853, respectively.

DILUTION TECHNIQUES: Based on the pharmacokinetic profile of ceftriaxone, a bacterial isolate may be considered susceptible if the MIC value for ceftriaxone is not more than 16 mcg/ml. Organisms are considered resistant to ceftriaxone if the MIC is equal to or greater than 64 mcg/ml. Organisms having an MIC value of less than 64 mcg/ml, but greater than 16 mcg/ml, are expected to be susceptible if a high dosage (not to exceed 4 gm per day) is used or if the infection is confined to tissues and fluids (e.g., urine), in which high antibiotic levels are attained.

E. coli ATCC 25922, *S. aureus* ATCC 25923 and *P. aeruginosa* ATCC 27853 are also the recommended reference strains for controlling ceftriaxone dilution tests. Greater than 95% of MICs for the *E. coli* strain should fall within the range of 0.016 to 0.5 mcg/ml. The range for the *S. aureus* strain should be 1 to 2 mcg/ml, while for the *P. aeruginosa* strain the range should be 8 to 64 mcg/ml.

INDICATIONS AND USAGE: Rocephin is indicated for the treatment of the following infections when caused by susceptible organisms:

LOWER RESPIRATORY TRACT INFECTIONS caused by *Strep. pneumoniae, Streptococcus* species (excluding enterococci), *Staph. aureus, H. influenzae, H. parainfluenzae, Klebsiella* species (including *K. pneumoniae*), *E. coli, E. aerogenes, Proteus mirabilis* and *Serratia marcescens.*

SKIN AND SKIN STRUCTURE INFECTIONS caused by *Staph. aureus, Staph. epidermidis, Streptococcus* species (excluding enterococci), *E. cloacae, Klebsiella* species (including *K. pneumoniae*), *Proteus mirabilis* and *Pseudomonas aeruginosa.*

URINARY TRACT INFECTIONS (complicated and uncomplicated) caused by *E. coli, Proteus mirabilis, Proteus vulgaris, M. morganii* and *Klebsiella* species (including *K. pneumoniae*).

UNCOMPLICATED GONORRHEA (cervical/urethral and rectal) caused by *Neisseria gonorrhoeae*, including both penicillinase and nonpenicillinase producing strains.

PELVIC INFLAMMATORY DISEASE caused by *N. gonorrhoeae.*

BACTERIAL SEPTICEMIA caused by *Staph. aureus, Strep. pneumoniae, E. coli, H. influenzae* and *K. pneumoniae.*

BONE AND JOINT INFECTIONS caused by *Staph. aureus, Strep. pneumoniae, Streptococcus* species (excluding enterococci), *E. coli, P. mirabilis, K. pneumoniae* and *Enterobacter* species.

INTRA-ABDOMINAL INFECTIONS caused by *E. coli* and *K. pneumoniae.*

MENINGITIS caused by *H. influenzae, N. meningitidis* and *Strep. pneumoniae.* Ceftriaxone has also been used successfully in a limited number of cases of meningitis and shunt infections caused by *Staph. epidermidis* and *E. coli.*

PROPHYLAXIS. The administration of a single dose of ceftriaxone preoperatively may reduce the incidence of postoperative infections in patients undergoing coronary artery bypass surgery.

Although ceftriaxone has been shown to have been as effective as cefazolin in the prevention of infection following coronary artery bypass surgery, no placebo-controlled trials have been conducted to evaluate any cephalosporin antibiotic in the prevention of infection following coronary artery bypass surgery.

SUSCEPTIBILITY TESTING: Before instituting treatment with Rocephin, appropriate specimens should be obtained for isolation of the causative organism and for determination of its susceptibility to the drug. Therapy may be instituted prior to obtaining results of susceptibility testing.

CONTRAINDICATIONS: Rocephin is contraindicated in patients with known allergy to the cephalosporin class of antibiotics.

WARNINGS: BEFORE THERAPY WITH ROCEPHIN IS INSTITUTED, CAREFUL INQUIRY SHOULD BE MADE TO DETERMINE WHETHER THE PATIENT HAS HAD PREVIOUS HYPERSENSITIVITY REACTIONS TO CEPHALOSPORINS, PENICILLINS OR OTHER DRUGS. THIS PRODUCT SHOULD BE GIVEN CAUTIOUSLY TO PENICILLIN SENSITIVE PATIENTS. ANTIBIOTICS SHOULD BE ADMINISTERED WITH CAUTION TO ANY PATIENT WHO HAS DEMONSTRATED SOME FORM OF ALLERGY, PARTICULARLY TO DRUGS. SERIOUS ACUTE HYPERSENSITIVITY REACTIONS MAY REQUIRE THE USE OF SUBCUTANEOUS EPINEPHRINE AND OTHER EMERGENCY MEASURES.

Pseudomembranous colitis has been reported with the use of cephalosporins (and other broad-spectrum antibiotics); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with antibiotic use.

ROCEPHIN® (ceftriaxone sodium/Roche)

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis. Cholestyramine and colestipol resins have been shown to bind to the toxin *in vitro.*

Mild cases of colitis respond to drug discontinuance alone. Moderate to severe cases should be managed with fluid, electrolyte and protein supplementation as indicated.

When the colitis is not relieved by drug discontinuance or when it is severe, oral vancomycin is the treatment of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile.* Other causes of colitis should also be considered.

PRECAUTIONS: *GENERAL:* Although transient elevations of BUN and serum creatinine have been observed, at the recommended dosages, the nephrotoxic potential of Rocephin is similar to that of other cephalosporins.

Ceftriaxone is excreted via both biliary and renal excretion (see Clinical Pharmacology). Therefore, patients with renal failure normally require no adjustment in dosage when usual doses of Rocephin are administered, but concentrations of drug in the serum should be monitored periodically. If evidence of accumulation exists, dosage should be decreased accordingly.

Dosage adjustments should not be necessary in patients with hepatic dysfunction; however, in patients with both hepatic dysfunction and significant renal disease, Rocephin dosage should not exceed 2 gm daily without close monitoring of serum concentrations.

Alterations in prothrombin times have occurred rarely in patients treated with Rocephin. Patients with impaired vitamin K synthesis or low vitamin K stores (e.g., chronic hepatic disease and malnutrition) may require monitoring of prothrombin time during Rocephin treatment. Vitamin K administration (10 mg weekly) may be necessary if the prothrombin time is prolonged before or during therapy.

Prolonged use of Rocephin may result in overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Rocephin should be prescribed with caution in individuals with a history of gastrointestinal disease, especially colitis.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY. Carcinogenesis: Considering the maximum duration of treatment and the class of the compound, carcinogenicity studies with ceftriaxone in animals have not been performed. The maximum duration of animal toxicity studies was six months.

Mutagenesis: Genetic toxicology tests included the Ames test, a micronucleus test and a test for chromosomal aberrations in human lymphocytes cultured *in vitro* with ceftriaxone. Ceftriaxone showed no potential for mutagenic activity in these studies.

Impairment of Fertility: Ceftriaxone produced no impairment of fertility when given intravenously to rats at daily doses up to 586 mg/kg/day, approximately 20 times the recommended clinical dose of 2 gm/day.

PREGNANCY. Teratogenic Effects. Pregnancy Category B. Reproductive studies have been performed in mice and rats at doses up to 20 times the usual human dose and have no evidence of embryotoxicity, fetotoxicity or teratogenicity. In primates, no embryotoxicity or teratogenicity was demonstrated at a dose approximately three times the human dose.

There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproductive studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nonteratogenic Effects: In rats, in the Segment I (fertility and general reproduction) and Segment III (perinatal and postnatal) studies with intravenously administered ceftriaxone, no adverse effects were noted on various reproductive parameters during gestation and lactation, including postnatal growth, functional behavior and reproductive ability of the offspring, at doses of 586 mg/kg/day or less.

NURSING MOTHERS: Low concentrations of ceftriaxone are excreted in human milk. Caution should be exercised when Rocephin is administered to a nursing woman.

PEDIATRIC USE: Safety and effectiveness of Rocephin in neonates, infants and children have been established for the dosages described in the Dosage and Administration section.

ADVERSE REACTIONS: Rocephin is generally well tolerated. In clinical trials, the following adverse reactions, which were considered to be related to Rocephin therapy or of uncertain etiology, were observed:

LOCAL REACTIONS—pain, induration or tenderness at the site of injection (1%). Less frequently reported (less than 1%) was phlebitis after I.V. administration.

HYPERSENSITIVITY—rash (1.7%). Less frequently reported (less than 1%) were pruritus, fever or chills.

HEMATOLOGIC—eosinophilia (6%), thrombocytosis (5.1%) and leukopenia (2.1%). Less frequently reported (less than 1%) were anemia, neutropenia, lymphopenia, thrombocytopenia and prolongation of the prothrombin time.

GASTROINTESTINAL—diarrhea (2.7%). Less frequently reported (less than 1%) were nausea or vomiting, and dysgeusia.

HEPATIC—elevations of SGOT (3.1%) or SGPT (3.3%). Less frequently reported (less than 1%) were elevations of alkaline phosphatase and bilirubin.

RENAL—elevations of the BUN (1.2%). Less frequently reported (less than 1%) were elevations of creatinine and the presence of casts in the urine.

CENTRAL NERVOUS SYSTEM—headache or dizziness were reported occasionally (less than 1%).

GENITOURINARY—moniliasis or vaginitis were reported occasionally (less than 1%).

MISCELLANEOUS—diaphoresis and flushing were reported occasionally (less than 1%).

Other rarely observed adverse reactions (less than 0.1%) include leukocytosis, lymphocytosis, monocytosis, basophilia, a decrease in the prothrombin time, jaundice, glycosuria, hematuria, bronchospasm, serum sickness, abdominal pain, colitis, flatulence, dyspepsia, palpitations and epistaxis.

DOSAGE AND ADMINISTRATION: Rocephin may be administered intravenously or intramuscularly. The usual adult daily dose is 1 to 2 gm given once a day (or in equally divided doses twice a day) depending on the type and severity of the infection. The total daily dose should not exceed 4 grams.

For the treatment of serious miscellaneous infections in children, other than meningitis, the recommended total daily dose is 50 to 75 mg/kg (not to exceed 2 grams), given in divided doses every 12 hours.

Generally, Rocephin therapy should be continued for at least two days after the signs and symptoms of infection have disappeared. The usual duration is 4 to 14 days, in complicated infections longer therapy may be required.

In the treatment of meningitis, a daily dose of 100 mg/kg (not to exceed 4 grams), given in divided doses every 12 hours, should be administered with or without a loading dose of 75 mg/kg.

For the treatment of uncomplicated gonococcal infections, a single intramuscular dose of 250 mg is recommended.

For preoperative use (surgical prophylaxis), a single dose of 1 gm administered ½ to 2 hours before surgery is recommended.

When treating infections caused by *Streptococcus pyogenes*, therapy should be continued for at least ten days.

No dosage adjustment is necessary for patients with impairment of renal or hepatic function, however, blood levels should be monitored in patients with severe renal impairment (e.g., dialysis patients) and in patients with both renal and hepatic dysfunctions.

HOW SUPPLIED: Rocephin (ceftriaxone sodium/Roche) is supplied as a sterile crystalline powder in glass vials and piggyback bottles. The following packages are available:

Vials containing 250 mg equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1962-01).

Vials containing 500 mg equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1963-01).

Vials containing 1 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1964-01).

Piggyback bottles containing 1 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1964-03).

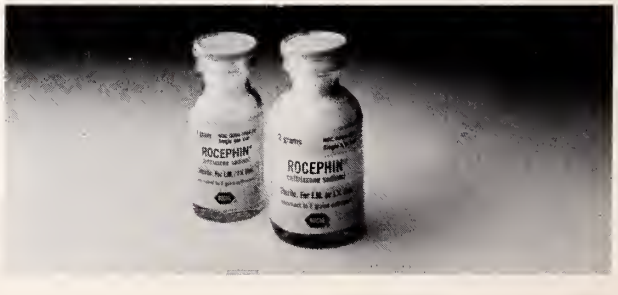
Vials containing 2 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1965-01).

Piggyback bottles containing 2 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1965-03).

Bulk pharmacy containers, containing 10 gm equivalent of ceftriaxone. Boxes of 1 (NDC 0004-1971-01).

NOT FOR DIRECT ADMINISTRATION.

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110



References:

1. Data on file, Hoffmann-La Roche Inc.
2. Patel IH, Kaplan SA: *Am J Med 77*:17-25, Oct 19, 1984.
3. Richards DM, *et al: Drugs 27*:469-527, 1984.
4. Cleeland R, Squires E: *Am J Med 77*:3-11, Oct 19, 1984.
5. Tanner DJ, Nazarian MO: *Am J Med 77*:104-111, Oct 19, 1984.

133rd Annual Session
North Carolina Medical Society

April 29 - May 2, 1987
Pinehurst Hotel and Country Club, Pinehurst, North Carolina

Wednesday, April 29

1:00 p.m.- 4:00 Hospital Medical Staffs Section (Crystal Room)
2:00 p.m.- 5:00 Registration (West Lobby)
2:00 p.m.- 5:00 Public Health & Education Section (Azalea Room)
3:00 p.m.- 5:00 Health Insurance Companies and Plans Committee (Pine Room)
6:30 p.m.- 8:00 Exhibitors' Reception (West Lawn)

Thursday, April 30

7:00 a.m.- 9:00 AMA Delegation Breakfast (Crystal Room)
7:00 a.m.-11:00 N.C. Academy of Family Physicians Board Breakfast (Azalea Room)
8:00 a.m.- 5:00 Registration (West Lobby)
9:00 a.m.- 5:00 Exhibits (North Room, South Room, Dogwood Room, Main Corridor, Ballroom Lobby)
9:30 a.m.-12:00 House of Delegates (Cardinal Ballroom)
9:30 a.m.- 1:30 N.C. Commission for Health Services (Pine Room)
12:00 p.m.- 2:00 Medpac Luncheon (West Lawn)
2:00 p.m.- 5:00 Reference Committee I (Cardinal Ballroom)
2:00 p.m.- 5:00 Reference Committee II (Azalea Room)
2:00 p.m.- 5:00 Reference Committee III (Crystal Room)
5:30 p.m.- 7:00 ECU School of Medicine Alumni Reception (West Porch, South End)
5:30 p.m.- 7:00 UNC School of Medicine Alumni Reception (West Porch, North End)
5:30 p.m.- 7:00 Duke University School of Medicine Alumni Reception (Front Porch, West End)
6:00 p.m.- 7:00 Bowman Gray School of Medicine Alumni Reception (Azalea Room Porch)
6:00 p.m.- 7:00 Medical College of Virginia Alumni Reception (Room 439)
8:30 p.m.-12:00 President's Reception & Dance (Cardinal Ballroom)

Friday, May 1

8:00 a.m.- 5:00 Registration (West Lobby)
8:00 a.m.- 5:00 Exhibits (North Room, South Room, Dogwood Room, Main Corridor, Ballroom Lobby)
8:00 a.m.-11:30 First General Session (Cardinal Ballroom)
9:00 a.m.-12:00 Mediation Committee (Carolina Board Room)
9:00 a.m.-12:00 Urology Section (Azalea Room)
9:00 a.m.-12:00 Psychiatry Section (Magnolia Room)
9:00 a.m.-12:00 Allergy & Clinical Immunology Section (Pine Room)
11:00 a.m.- 1:00 N.C. Orthopaedic Association Executive Committee (Carolina Board Room)

12:00 p.m.- 2:00 Ophthalmology Section Luncheon (Country Club Dining Room)
1:00 p.m.- 2:00 N.C. Orthopaedic Association Business Meeting (Pine Room)
2:00 p.m.- 5:00 Pediatric Section & Plastic and Reconstructive Surgery Section (Cardinal Ballroom)
2:00 p.m.- 5:00 Family Practice Section (Azalea Room)
2:00 p.m.- 5:00 Emergency Medicine Section (Magnolia Room)
2:00 p.m.- 5:00 Orthopaedic Section (Pine Room)
2:00 p.m.- 5:00 Neurology Section (Parlor 129)
2:00 p.m.- 5:00 Ophthalmology Section (Country Club Dining Room)
2:00 p.m.- 5:00 N.C. Society of Internal Medicine Executive Committee (Merion Villa)
2:00 p.m.- 5:00 Obstetrics & Gynecology Section (Mid Pines Resort)
5:00 p.m.- 6:30 N.C. Society of Plastic and Reconstructive Surgery Board Meeting (Amherst Room, Holly Inn)
5:30 p.m.- 7:00 N.C. Society of Internal Medicine Reception (Merion Villa)
7:30 p.m.- 9:30 President's Dinner (Cardinal Ballroom)

Saturday, May 2

8:00 a.m.- 3:00 Registration (West Lobby)
8:00 a.m.-12:00 Anesthesiology Section (Pine Room)
8:00 a.m.-12:00 Radiology Section (South Room); also Sunday May 3, same time
9:00 a.m.-12:00 Second General Session (Cardinal Ballroom)
9:00 a.m.-12:00 Dermatology Section (Crystal Room)
9:00 a.m.-12:00 Otolaryngology & Maxillofacial Surgery Section (Azalea Room)
9:00 a.m.-12:00 Resident Physicians Section (Carolina Board Room)
9:00 a.m.-12:00 Neurological Surgery Section (Magnolia Room)
9:00 a.m.-12:00 Medical Students Section (Dogwood Room)
9:00 a.m.-12:00 Pathology Section (North Room)
9:00 a.m.-12:00 Surgery Section (Country Club Dining Room)
9:00 a.m.-12:00 N.C. Society of Plastic & Reconstructive Surgery General Membership Meeting (Amherst Room, Holly Inn)
12:00 p.m.- 2:00 Dermatology Section Luncheon (West Porch, South End)
12:00 p.m.- 2:00 New Hanover-Pender County Medical Society Caucus (Parlor 129)
12:30 p.m.- 2:00 Pitt County Medical Society Caucus (Carolina Board Room)
1:00 p.m.- 2:00 Mecklenburg County Medical Society Caucus (Azalea Room)
1:00 p.m.- 2:00 Forsyth-Stokes-Davie County Medical Society Caucus (Magnolia Room)
2:00 p.m.- 5:00 House of Delegates (Cardinal Ballroom)
7:00 p.m.- 8:00 N.C. Chapter, American College of Radiology Reception (North Room)
8:00 p.m.-10:00 N.C. Chapter, American College of Radiology Dinner (South Room)

To show you how many hypertensives stayed on INDERAL® LA (PROPRANOLOL HCl) after a major nationwide trial...




...we had
to find
just the
right room.

60,073 patients (90%) who started on INDERAL® LA stayed on INDERAL LA.[1*]

Surprising? Not really.

Because most patients on INDERAL LA (propranolol HCl) don't even know it's working.
A recent double-blind, placebo-controlled, crossover study in 138 hypertensive patients[2] revealed that INDERAL LA has a side effects profile unsurpassed by atenolol or metoprolol—which shows how well-tolerated once-daily INDERAL LA can be.

Sole therapy or concomitant therapy? Fifty-nine percent of the time, INDERAL LA stood on its own.

The patients in the nationwide compliance trial were no different from yours. Generally when the antihypertensive regimen is complicated, compliance may become a problem. So, the effectiveness of INDERAL LA as once-daily monotherapy is a big plus. Of the remaining hypertensives in the program, 36% were controlled merely with the addition of a diuretic to INDERAL LA.

For the noncompliant patients in your practice, INDERAL LA may well be the answer.

Almost 20,000 of the patients in the nationwide compliance trial were identified as having been noncompliant with their previous antihypertensive therapy. Their physicians reported that 88% showed improved compliance when placed on once-daily INDERAL LA.

Control, comfort, and compliance

ONCE-DAILY
INDERAL® LA
(PROPRANOLOL HCl)
LONG ACTING CAPSULES

Like conventional INDERAL Tablets, INDERAL LA should not be used in the presence of congestive heart failure, sinus bradycardia, cardiogenic shock, heart block greater than first degree, and bronchial asthma.

*After a 30-day trial with INDERAL LA, physicians reported that 90% of the patients would remain on INDERAL LA.

The one you know best keeps looking better

Please see next page for brief summary of prescribing information.

The one you know best keeps looking better

BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR)*

INDERAL® LA brand of propranolol hydrochloride **(Long Acting Capsules)**

DESCRIPTION. Inderal LA is formulated to provide a sustained release of propranolol hydrochloride. Inderal LA is available as 80 mg, 120 mg, and 160 mg capsules.

CLINICAL PHARMACOLOGY. INDERAL is a nonselective beta-adrenergic receptor blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta-adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg for mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

The mechanism of the antihypertensive effect of INDERAL has not been established. Among the factors that may be involved in contributing to the antihypertensive action are (1) decreased cardiac output, (2) inhibition of renin release by the kidneys, and (3) diminution of tonic sympathetic nerve outflow from vasomotor centers in the brain. Although total peripheral resistance may increase initially, it readjusts to or below the pretreatment level with chronic use. Effects on plasma volume appear to be minor and somewhat variable. INDERAL has been shown to cause a small increase in serum potassium concentration when used in the treatment of hypertensive patients.

In angina pectoris, propranolol generally reduces the oxygen requirement of the heart at any given level of effort by blocking the catecholamine-induced increases in the heart rate, systolic blood pressure, and the velocity and extent of myocardial contraction. Propranolol may increase oxygen requirements by increasing left ventricular fiber length, end diastolic pressure and systolic ejection period. The net physiologic effect of beta-adrenergic blockade is usually advantageous and is manifested during exercise by delayed onset of pain and increased work capacity.

In dosages greater than required for beta blockade, INDERAL also exerts a quinidine-like or anesthetic-like membrane action which affects the cardiac action potential. The significance of the membrane action in the treatment of arrhythmias is uncertain.

The mechanism of the antimigraine effect of propranolol has not been established. Beta-adrenergic receptors have been demonstrated in the pial vessels of the brain.

Beta receptor blockade can be useful in conditions in which, because of pathologic or functional changes, sympathetic activity is detrimental to the patient. But there are also situations in which sympathetic stimulation is vital. For example, in patients with severely damaged hearts, adequate ventricular function is maintained by virtue of sympathetic drive which should be preserved. In the presence of AV block, greater than first degree, beta blockade may prevent the necessary facilitating effect of sympathetic activity on conduction. Beta blockade results in bronchial constriction by interfering with adrenergic bronchodilator activity which should be preserved in patients subject to bronchospasm.

Propranolol is not significantly dialyzable.

ONCE-DAILY

INDERAL® LA

(PROPRANOLOL HCl)

LONG ACTING CAPSULES

80 mg 120 mg 160 mg



INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension; it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock; 2) sinus bradycardia and greater than first degree block; 3) bronchial asthma; 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

WARNINGS. CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, e.g., dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case, this resulted after an initial dose of 5 mg propranolol.

PRECAUTIONS. *General:* Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

Clinical Laboratory Tests: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

Pregnancy: Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers: INDERAL is excreted in human milk. Caution should be exercised when INDERAL is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: bradycardia, congestive heart failure; intensification of AV block; hypotension; paresthesia of hands; thrombocytopenic purpura; arterial insufficiency, usually of the Raynaud type.

Central Nervous System: lightheadedness; mental depression manifested by insomnia, lassitude, weakness, fatigue; reversible mental depression progressing to catatonia; visual disturbances; hallucinations; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics.

Gastrointestinal: nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory: bronchospasm.

Hematologic: agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

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ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three to seven day intervals until optimum response is obtained. Although individual patients may respond at any dosage level, the average optimum dosage appears to be 160 mg once daily. In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

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REFERENCES:

1. INDERAL LA National Compliance Evaluation Program. Data on file, Ayerst Laboratories.
2. Ravid M, Lang R, Jutrin I: The relative antihypertensive potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily. *Arch Intern Med* 1985;145:1321-1323.

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Two Views of a Patient with Progressive Dementia

Introduction

Albert Heyman, M.D. and Lisa Gwyther, M.S.W.

This issue of the *North Carolina Medical Journal* presents two views of a case history of a 47-year-old man who died after a five-year period of progressive cognitive impairment and personality changes. The first account is a traditional medical case report which describes the occurrence of rheumatic fever in childhood, the subsequent development of cardiac and renal disease, and finally death associated with mental deterioration caused by an unusual form of cerebral vascular disease (Hurwitz BJ, et al, p. 182). The second description is by the patient's wife, Myrna Doernberg (p. 187), whose recent book *Stolen Mind*[1] has become popular reading for families participating in the Alzheimer's Disease and Related Disorders Association.[2]

In her report of her husband's numerous encounters with the medical profession, Mrs. Doernberg shares her perceptive views of family-doctor relationships, particularly the management of patients with early dementia and behavioral abnormalities.

Because of the unusual nature of the patient's illness, Binswanger's disease, which in this case was associated with a number of systemic complications, an early diagnosis was not made. The diagnosis of this illness is now frequently made by new neuro-imaging procedures. But for Mrs. Doernberg it was not so much the lack of a diagnosis as the lack of communication with her husband's physicians that was most disturbing. In her eloquent review of her experiences, it becomes evident that she was not given sufficient opportunity to express her thoughts and experiences relevant to her husband's illness. Although it was clear to her that her husband could not provide an adequate history, she was often not included in the physician interviews, nor in discussions of the findings of various consultants, psychologists and other professional personnel.

This situation is unfortunately all too frequent in the initial evaluation of patients with early dementia. In many such instances the patient is not aware of his or her own cognitive impairments and the symptoms are often attributed to emotional, marital or environmental stresses. In this particular case, the patient's behavioral changes were thought to be the result of social, domestic or job-related problems. It was only in the later course of the illness that progressive brain damage was revealed by neuropsychological testing. The etiology of the intellectual impairment then became the major diagnostic problem.

Perhaps the most important lesson to be learned from both of these accounts is that the patient's family must have an active role in the diagnostic and therapeutic management of difficult and complex illnesses. Their involvement is particularly important in cases of dementia and other disorders in which the patient's memory and judgment are impaired. Mrs. Doernberg's publications and her continuing efforts to emphasize the family's needs should be appreciated by the medical profession. ■

From the Joseph and Kathleen Bryan Alzheimer's Disease Research Center, Division of Neurology, Duke University Hospital, Durham 27710.

References

1 Doernberg M. Stolen mind: the slow disappearance of Ray Doernberg. Chapel Hill: Algonquin Books, 1986.

2 For more information on dementing disorders and support groups, call (in NC) 1-800/672-4213 (Duke Alzheimer's Family Support Program).

Subcortical Arteriosclerotic Encephalopathy (Binswanger's Disease)

Report of a Case Simulating Psychiatric Disease and Normal Pressure Hydrocephalus

Barrie J. Hurwitz, M.D., Albert Heyman, M.D., Peter C. Burger, M.D., and Burton P. Drayer, M.D.

Subcortical arteriosclerotic encephalopathy, or Binswanger's disease, is a chronic, cerebrovascular disorder characterized by ischemia or infarction of the deep white matter of the cerebral hemispheres, sparing the cortex.[1,2] Until recently, this disorder has been considered to be uncommon. Most of the reports of this illness describe only a few patients who had evidence of hypertension, stroke and progressive dementia.[3,4] High-resolution computer tomography (CT) and magnetic resonance imaging, however, have shown that the typical radiographic appearance of Binswanger's disease, i.e., multiple lacunar infarcts and ischemic changes in the periventricular cerebral white matter, can be found in patients with other clinical or neurologic manifestations.[5] Relatively few patients with Binswanger's disease have had autopsy confirmation of their clinical and neuro-imaging findings.[6,7]

Case Report

The patient, a 47-year-old male architectural designer, was admitted to Duke University Medical Center in July 1983 for evaluation of chronic progressive dementia. At age nine, he had been diagnosed as having rheumatic fever, and at age 19 he had been rejected from the Armed Services because of a cardiac murmur.

Throughout his adolescence and early adulthood the patient complained of shoulder pain, for which he took as many as eight aspirin tablets a day for more than ten years. In his early thirties, he required stronger analgesics and consumed six to eight tablets a day of a variety of such medications, including Percodan, Motrin, Percocet, Tylox and Indocin. During the three-year period prior to his admission to Duke Hospital, he had been taking six or more tablets of Darvocet each day.

Beginning at about age 30, the patient had frequent cardiac palpitations which were associated with an irregular fast pulse but no loss of consciousness. These attacks of cardiac arrhythmia were brought to the attention of his physicians on admission to his local hospital five months prior to his admission to Duke. At that time his arterial blood pressure was recorded as 130/90 mm Hg. A His bundle electrocardiogram showed an arrhythmia which was not considered to be clinically significant.

At age 46, the patient had been admitted to a Boston hospital with the complaint of peripheral and facial edema. He was found to have severe albuminuria and elevated serum creatinine levels. A renal biopsy showed severe interstitial fibrosis in the medulla and extensive scarring with abundant hyalinosis of the arteries and arterioles. A diagnosis was made of analgesic nephropathy.

In addition to his renal disease and recurrent pre-syncope, the patient had a history of three episodes of transient focal cerebral ischemia. One occurred in 1981 when he noted the sudden onset of right-sided paresthesias. Examination by a neurologist the following day revealed no residual neurologic deficits. His blood pressure was 142/92 mm Hg. The CT scan and electroencephalogram were normal. A history of two other ischemic attacks was later obtained. One had occurred in 1977 and consisted of a 15-minute period of inability to speak. The last episode, in 1982, also consisted of a speech disturbance.

The patient became aware of his mental changes in 1979 when he expressed doubts as to his ability in carrying out his everyday activities. He sought psychiatric help and was enrolled in group therapy. During the next two to three years his employer noted increasing inability to do simple tasks

From the Joseph and Kathleen Bryan Alzheimer's Disease Research Center and the Division of Neurology, Department of Pathology, and Department of Radiology, Duke University Medical Center, Durham 27710

such as making a blueprint or telephoning clients. On a family trip to Hawaii in July 1982, the patient lost his baggage, and he was unable to keep track of travel plans or take responsibility for purchasing tickets or making reservations. His attitude and personality changes during this time period were thought to be of a psychiatric nature and he received sporadic counseling.

Psychologic tests in September 1982 showed a WAIS Full-Scale IQ of 96, a Verbal IQ of 113 and Performance IQ of 70. He was admitted to a psychiatric ward for diagnostic evaluation. A CT scan of the brain showed periventricular lucencies surrounding slightly enlarged frontal horns. A diagnosis was made of dementia caused by normal pressure hydrocephalus, and a ventricular-peritoneal shunt was inserted in February 1983. The patient's mental confusion, memory impairment and personality changes, however, continued to progress.

Repeat psychologic testing in May 1983 showed that the WAIS Full-Scale IQ had fallen to 71, Verbal IQ to 84 and Performance IQ to 57. It was then noted that he had difficulty expressing his thoughts and needs. He became increasingly confused in carrying out simple daily tasks and on one occasion attempted to open a can of food with a pencil. He could no longer use a spoon or fork and had difficulty finding the bathroom in his own home. He was unable to dress himself and had to be instructed in taking a shower and brushing his teeth. He often wandered aimlessly about the house or sat and stared uncomprehending at the television screen. The patient developed a bland personality with very few demands, hostility or agitation.

On admission to Duke Hospital, in July 1983, the patient was quiet, cooperative and pleasant. He did not know his age, the day of the week, the month or year. He was unable to remember a name and address after a few minutes and could not count backward from 20 to 1. He could not recall the names of his children or the name of his sister. He was aware of his serious memory loss but did not appear disturbed by this.

Physical examination revealed a Grade III harsh systolic ejection murmur at the apex of the heart and also at the base with faint transmission to the neck. The arterial blood pressure was 168/92 mm Hg on admission to the hospital and ranged from 130/80 to 150/100 mm Hg during his hospital stay. The pulse was regular with occasional extrasystoles. Neurologic examination showed no focal neurologic deficits or abnormal tendon reflexes.

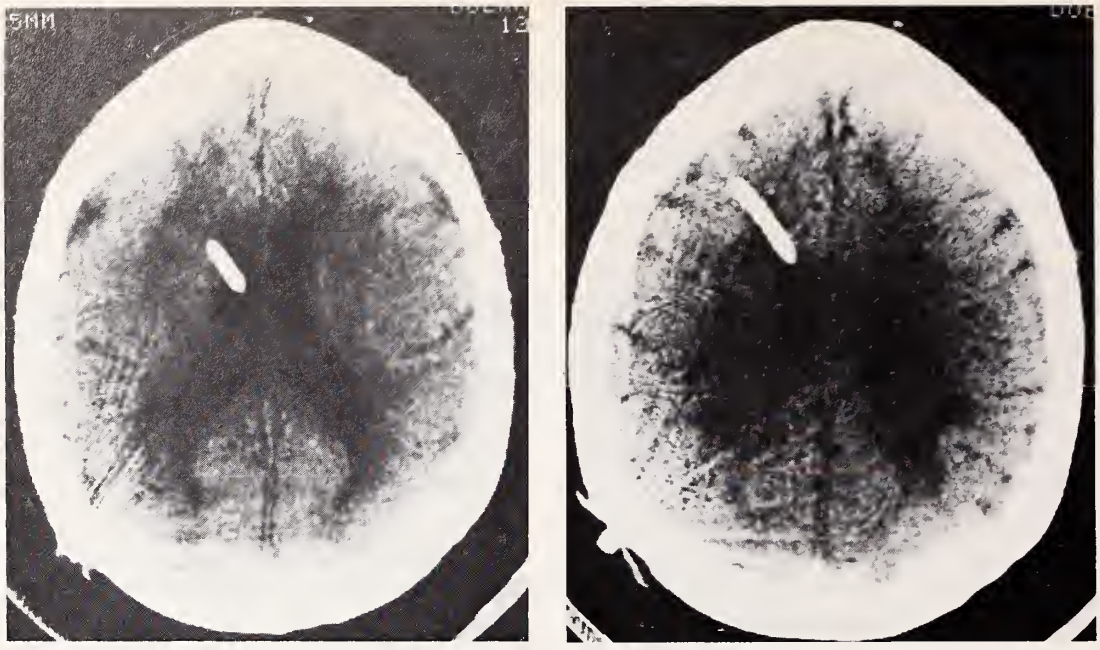
The hematologic findings were normal but the serum creatinine level was 3.2 mg%, and the BUN, 27 mg%. There was a 3+ proteinuria. Roentgenogram of the chest showed moderate cardiomegaly with left ventricular hypertrophy. The electrocardiogram showed sinus bradycardia at a rate of 59 and a prolonged P-R intervel of 0.37. There was right bundle branch block with left ventricular hypertrophy and left ventricular strain. Holter monitoring showed the basic rhythm to be first-degree heart block with a rate of 65 to 100 beats per minute. The P-R interval varied and there were short sinus pauses. There were long runs of 2:1 second-degree heart block, with ventricular rates of 32 to 40 per minute, lasting up to 40 minutes. There was an occasional escape paroxysmal ventricular contraction. The echocardiogram showed thickening, calcification, and fibrosis of the aortic wall and mitral valve annulus. A pacemaker was implanted to prevent further impairment in cerebral perfusion.

An electroencephalogram showed diffusely slow electrical activity with a frequency of 7 Hz posterior alpha rhythm. Polymorphic intermittent frontal delta activity (1-2 Hz) was present and was thought to be consistent with diffuse encephalopathy. Computer tomography of the brain showed a ventricular catheter in the right frontal horn (figures 1A and 1B, next page). There was mild ventricular dilatation. A confluent area of hypodensity of the cerebral white matter was present in both hemispheres adjacent to the frontal horns, the bodies, and the occipital horns of the lateral ventricles. Focal areas of decreased density were not reported on the antemortem CT reading but were noted in retrospect the following year, when the CT films were compared with slices of the brain made at autopsy. The cortical sulci shown on the CT scans were not abnormally enlarged. The CT findings were considered to be characteristic of subcortical arteriosclerotic leukoencephalopathy or Binswanger's disease.

The patient was discharged from Duke Hospital with a diagnosis of progressive dementia associated with Binswanger's disease. He was also diagnosed as having rheumatic heart disease with moderate aortic stenosis, second-degree atrioventricular block, and azotemia caused by analgesic nephropathy. During the next eight months he showed gradual deterioration in mentation. In March 1984 he was hospitalized following a major motor seizure. Progressive renal impairment was noted but renal dialysis was not advised. Death occurred within a few days.

Postmortem examination showed enlargement of the myocardial wall. The heart weighed 550 gms. The anterior wall of the left lateral myocardium contained a $1 \times 1 \times 0.5$ cm area of old, gray fibrous tissue. There was moderate calcific aortic stenosis. The coronary arteries showed prominent atherosclerosis without complete occlusions or thrombi. The left anterior descending coronary artery was markedly atherosclerotic but not significantly narrowed. The mitral valve and aortic valves were thickened, opaque and rigid. Patchy areas of myocardial fibrosis were present on microscopic examination. The one kidney available from the local prosector weighed 80 gm and showed diffuse granularity of the cortical surface. Marked reduction of the thickness of the medulla was observed on gross examination, and thickening of small arteries on microscopic inspection. The findings were consistent with severe analgesic nephropathy.

The left half of the brain was available for neuropathologic studies. It weighed 610 gm and showed severe atherosclerosis of the distal vertebral artery and the basilar artery without significant stenosis of the lumen. The internal



Figures 1A and 1B. Both photographs show non-enhanced CT scans of the head. A shunt tube is positioned in the right lateral ventricle. The ventricles are slightly enlarged and the cortical sulci are only slightly widened. Multi-focal confluent hypodensities are seen bilaterally in the centrum semiovale, particularly in the areas adjacent to the frontal, body and occipital horns of the ventricles.

carotid artery showed slight atherosclerosis but the middle cerebral and anterior cerebral arteries appeared normal. The cerebral gyri were not atrophic but the ventricles showed moderate dilation.

Small, multiple lacunar infarcts were noted throughout the white matter of the centrum semiovale above the level of the head of the caudate nucleus (figures 2A and 2B). These lesions ranged in diameter from 0.4×0.3 cm to less

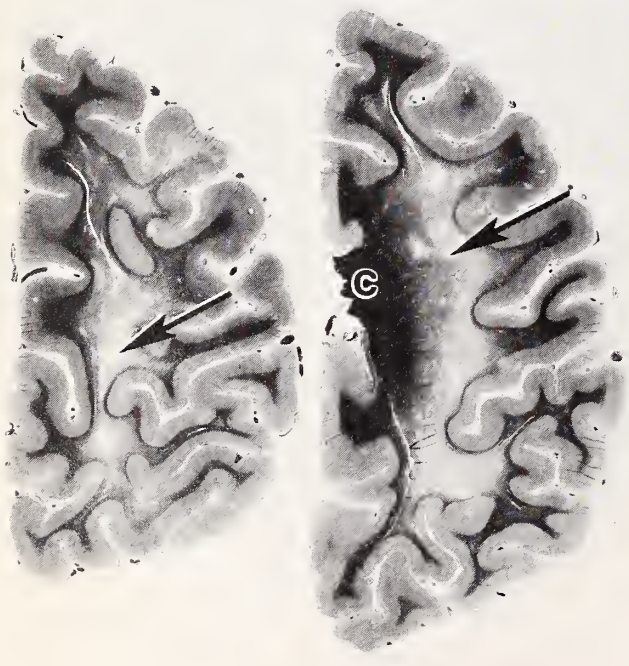


Figure 2A. Two sections of the left hemisphere show diffuse pallor of the centrum semiovale and subcortical lacunar infarcts indicated by arrows. There is a sharp contrast between pale areas of the centrum semiovale and the normal dark staining myelin in the subcortical arcuate fibers and corpus callosum (C). (Hematoxylin and Eosin/Luxol Fast Blue).



Figure 2B. This section of the left hemisphere cut in the plane of the CT scan in figure 1A shows diffuse pallor of the centrum semiovale and subcortical lacunar infarcts indicated by the arrows. There is, in addition, a small cortical infarct of the occipital tip in this figure. (Hematoxylin and Eosin/Luxo fast Blue).

than a millimeter. Other lacunes were present in the mid-portion of the frontal lobe involving the deep portion of a sulcus, the posterior frontal area as well as the medial occipital lobe. The white matter had a yellow granular appearance and contained vessels with prominent perivascular spaces. No overt lacunes were noted within the basal ganglia or thalamus.

On microscopic examination, the proximal portion of Sommer's sector showed a small focus of loss of neurons and resultant gliosis. No neurofibrillary changes or granulovacuolar degeneration were found. Multiple small lacunar infarcts were scattered within the central semiovale and basal ganglia. Vascular changes consisted of thickening of small arteries, associated with a scant perivascular lymphocytic infiltrate (figure 3). The pallor of the white matter was most striking with sparing of the internal capsule, corpus callosum, and subcortical arcuate fibers (figure 4). This abnormality was diffuse and independent of adjacent lacunes. In the more severe areas there was conspicuous vacuolization in the white matter as well as moderate astrocytosis. Stains of the axis cylinder in these areas disclosed considerable loss of axons with small or absent myelin sheaths.

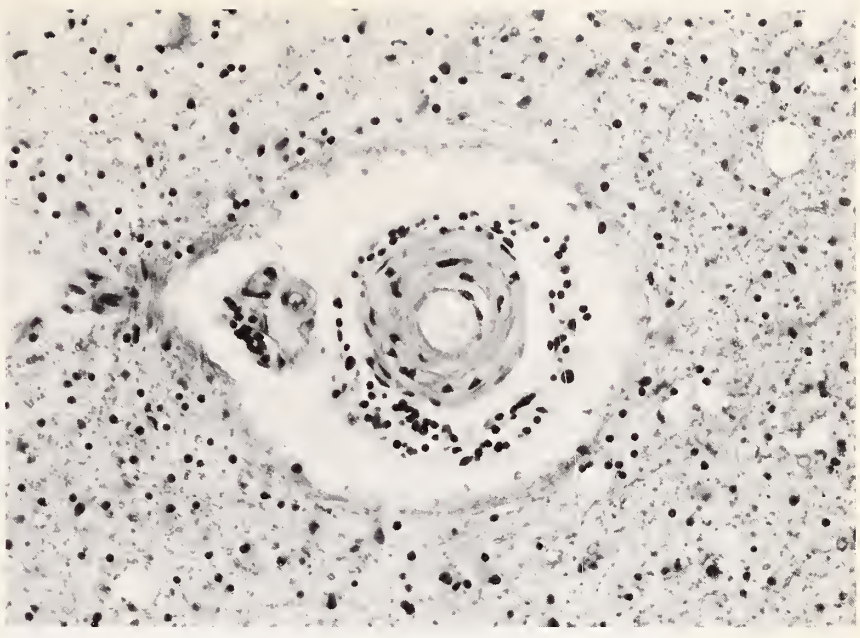


Figure 3. Many of the vessels in the deep white matter and basal ganglia were markedly thickened and surrounded by a few lymphocytes and astrocytes. (Hematoxylin and Eosin/Luxol Fast Blue, × 250).

A comparison was made of the whole-mount, hematoxylin and eosin-stained section of the brain with the CT findings in the same horizontal sections of the brain. The multiple areas of lacunar infarction in the central semivale corresponded to focal areas of hypodensity seen in retrospect on the CT scan. The diffuse demyelination noted on the whole-mount sections matched the confluent hypodensities seen on the CT scan. There were, however, many more discrete lacunar infarcts in the tissue whole-mount than could be delineated by the CT scan.



Figure 4. This section of the cerebral cortex shows the underlying subcortical arcuate fibers and centrum semiovale stained for myelin. A lacunar infarct (L) is present in the deep white matter. The pallor of the white matter is in sharp contrast to the darker staining subcortical region indicated by the arrow. (Hematoxylin and Eosin/Luxol Fast Blue × 25).

Discussion

This case report calls attention to several clinical, pathological and neuroradiological features of Binswanger's disease which are important in understanding the nature of the disorder. Our patient had behavioral changes and signs of mental impairment of five years' duration without persistent focal neurologic deficits. Although there was a history of several episodes of transient paresthesias in the limbs and speech disturbances, these focal symptoms of cerebral ischemia were overshadowed by the progressive mental changes. For this reason it is understandable that the patient's bahavioral symptoms, such as loss of interest and motivation, were attributed to a psychiatric disorder.

It should be emphasized that personality changes and cognitive impairment without localized cerebral manifestations are not unusual in patients with Binswanger's disease. One such patient was reported by one of the authors,[4] and similar cases have been described by others.[5] Even in the absence of focal neurological deficits, neuro-imaging procedures (i.e., CT scans and magnetic resonance images) often show ischemic lesions in the cerebral white matter. The pathogenetic mechanism responsible for the behavioral abnormalities and for the loss of cognitive function in these patients is not certain. Some investigators believe that the severe dementia may be caused by the multiple lacunar infarctions; others believe that diffuse edema of the subcortical tissues is responsible for progressive cognitive impairment.[8,9]

The absence of persistent hypertension in our patient may have been another factor contributing to the delay in making the correct diagnosis. Binswanger's disease is usually associated with moderate or severe hypertension, but cases have been described with normal blood pressure measurements.[10]

Although our patient had only an occasional elevation of blood pressure, left ventricular hypertrophy was present at autopsy. The small medullary arteries in both cerebral hemispheres were found to have segmental arterial degeneration characteristic of hypertensive vascular disease. The patient also had valvular heart disease and recurrent cardiac arrhythmia. These conditions may have produced intermittent cerebral ischemia, and perhaps contributed to the development of dementia.

The findings in the patient's later CT scans were characteristic of Binswanger's disease. They consisted of bilateral, symmetrical areas of decreased density of the periventricular white matter and centrum semiovale. Although no lacunar infarcts were observed in the antemortem readings of the CT scans, retrospective examination was thought to show multiple small lacunes throughout the white matter which matched those in the whole brain slices.

Prior to the patient's admission to Duke Medical Center a diagnosis of normal pressure hydrocephalus was made on the basis of slightly enlarged ventricles and decreased density of the periventricular white matter surrounding the frontal horns. The presence of such hypodense areas in the CT scans of this disorder is believed to be caused by transependymal flow of spinal fluid from ventricles into white matter. The differential diagnosis between Binswanger's disease and normal pressure hydrocephalus may be difficult. Various criteria have been suggested for the differentiation of the white matter hypodensity in the two illnesses, but in many instances the diagnostic problem is not easily resolved.[5]

In summary, this patient presented a complex array of renal, cardiac, neurological and behavioral symptoms caused by several separate but related diseases. The unusual nature of his illness led to a delay in diagnosis of this uncommon cause for vascular dementia.

The emotional distress of the patient's family resulting from this situation is vividly described by his wife in her book *Stolen Mind*.[11] A description of her personal experiences in dealing with this illness follows this article. It provides additional insights into the nature of the disease. ■

References

1 Janota I. Dementia, deep white matter damage and hypertension: "Binswanger's disease." Pycholog Med 1981;11:29-48.

2 Rosenberg GA, Kornfield M, Stovring J, Bicknell JM. Subcortical arteriosclerotic encephalopathy (Binswanger): computerized tomography. Neurology 1979;29:1102-6.

3 Caplan LR, Schoene WC. Clinical features of subcortical arteriosclerotic encephalopathy (Binswanger disease). Neurol 1978;28:1206-15.

4 Burger PC, Burch JG, Kunze U. Subcortical arteriosclerotic encephalopathy (Binswanger's disease): a vascular etiology of dementia. Stroke 1976;7:426-31.

5 Kinkel WR, Jacobs L, Polachini I, et al. Subcortical arteriosclerotic encephalopathy (Binswanger's disease). Arch Neurol 1985;42:951-9.

6 Loizou LA, Kendall BE, Marshall J. Subcortical arteriosclerotic encephalopathy: a clinical and radiological investigation. J Neurol Neurosurg Psychia 1981;44:294-302.

7 Goto K, Ishii N, Fukasawa H. Diffuse white matter disease in the geriatric population. Radiology 1981;141:687-95.

8 DeReuck J, et al. Pathogenesis of Binswanger: chronic progressive subcortical arteriosclerotic encephalopathy. Neurol 1980;30:920-8.

9 Huang K, Wu L, Luo Y. Binswanger's disease; progressive subcortical encephalopathy or multi-infarct dementia? Canad J Neurol Sci 1985;12:88-94.

10 George AR, deLeon MJ, Gentes CI, et al. Leukoencephalopathy in normal and pathologic aging: 1. CT of brain lucencies. Am J Neuroradiol 1986;7:561-6.

11 Doernberg M. Stolen Mind: the slow disappearance of Ray Doernberg. Chapel Hill: Algonquin Books, 1986.

A Family's View of Progressive Dementia

Myrna Doernberg

My husband, Ray, employed as a vice-president of an architectural design firm, did not remember how to execute a perspective drawing. He sat at his drawing board for hours, knowing what he wanted to do, but he was unable to begin. At 46 years of age, he described himself as feeling paralyzed. For the past few months he had become noticeably confused and disoriented when driving. He had problems handling money, he had not been sufficiently able to concentrate to read a book in over a year, and he generally lacked his previous interest in and passion for life.

He had recognized a problem three years earlier, attributed it to midlife changes and sought psychological counseling for a brief period. Gradually, he had delegated responsibilities to me at home and to others at work. Eventually, his job performance was affected so that he was not able to function responsibly. He was asked to take a leave of absence.

The degenerative process was slow and insidious. Subtly, but relentlessly, it was eroding Ray's cognition and affect. No longer were there isolated incidents of forgetfulness, poor judgment, and misunderstood and atypical responses and behaviors. Rather, the frightening changes had affected and disrupted all facets of Ray's daily life, work, and relationships.

Ray was admitted to the psychiatric ward in September 1982. The previous May he had been diagnosed as having analgesic nephritis. This was a result of the aspirin and stronger analgesics he had taken over the years for undiagnosed shoulder pains, following rheumatic fever as a child. This illness had left him with a functional heart murmur which exempted him from the armed services but did not curtail his physical activity.

Although Ray clearly presented symptoms of depression, the depression appeared atypical. During his five weeks in the hospital, an antidepressant was prescribed. A CT scan was taken during hospitalization and a diagnosis was made of metabolic encephalopathy. On discharge from the hospital, we were told that proper nutrition and exercise would help Ray resume a functional life.

Our hope for Ray's recovery was initially quite good. Although there was a gnawing within me that his illness wasn't that simple, I trusted and wanted to believe that we had control over what was happening. The months that followed were difficult. Our expectations were high. Ray applied for another job, after struggling for two weeks on his resume. I began the process of applying for social security disability. Although we wanted to believe that Ray would be well enough to work, the reality was that he was able to do little. Our comfortable and open style of communicating over the previous 22 years of marriage was now fraught with misunderstanding and confusion.

During the four months that followed Ray's hospitalization, I found little support from the medical community. The hospital psychiatrist saw Ray a few times during that period. Ray reported that they discussed setting goals. He did not feel that he was being helped.

In February 1983 a CT scan indicated that Ray had normal pressure hydrocephalus. We were told that there was only a 25% chance that Ray would improve with surgery. Given no other options, I agreed to the insertion of a ventriculoperitoneal shunt. Ray healed quickly from the surgery, but continued to decline cognitively. Although we had contact with the neurosurgeon who checked the shunt periodically, he did not provide the support we needed.

I knew Ray was deteriorating, but aside from a family physician I met at the Alzheimer's Support Group, there was no follow-through from the physician who had been involved in Ray's case.

Physicians seem to gain satisfaction from patients who respond to treatment, improving and getting well from their care. Ray's case was an enigma to the doctors who initially saw him. He was a young man. He was not getting better. He was deteriorating. There were no answers.

In July 1983, Ray went to Duke University Medical Center. It was there, for the first time, that I was taken aside and asked numerous questions about Ray's medical history, changes in mentation, personality, and functioning. For the first time I felt that the information I provided, along with the psychological testing and other diagnostic procedures, offered the staff a more complete picture of his condition.

After a hospitalization period of two weeks, caused by the unexpected need for a pacemaker, Ray was diagnosed as having subcortical arteriosclerotic encephalopathy or Binswanger's disease. I was told the disease was terminal, but the progression was unknown. Again we were sent home. I knew Ray was to die, but did not know when or how.

During the months that followed, until his death in March of 1984, my emotional support came from the Alzheimer's

Disease and Related Disorders Support Group and friends to whom I reached out. Members of our support group learned from each other, sharing the parts of our souls that our physicians would never know. Losing a loved one to a disease that robs his very essence is probably beyond the awareness of most of the medical community.

I have learned much in retrospect. It is always easier to look back and recognize that a serious problem had been developing. But, sometimes Monday morning quarterbacking pays off.

Diseases that involve impaired cognition do not fit into neat, easily diagnosed categories. Instead, symptoms of dementia reflect many disorders, some treatable. Unlike other conditions in which a specific battery of tests can determine the cause, diseases that affect cognition are not so easily discerned. Consequently, the role of the physician becomes much more investigative and may require a degree of imagination. When a patient presents with atypical symptoms, as Ray did, it seems both practical and feasible that a multidisciplinary team be formed, drawing expertise from the various health sciences. It then becomes possible to explore all options, increasing the chances of an early, accurate diagnosis.

Although it is usually difficult to make an early diagnosis of progressive, irreversible dementia, an accurate diagnosis is crucial. First, if the condition is reversible, early treatment is imperative. Second, early intervention, even for a fatal disease, allows time for the victim to make decisions for the future, before progression of the dementia precludes his or her participation.

Today we know that "senility" is not a normal process of aging. People well into the eighth and ninth decade of life can be productive and independent. Yet, problems still persist in the diagnosis of Alzheimer's disease and other dementing disorders. Too often I hear about elderly patients with symptoms of memory loss who receive a diagnosis of hardening of the arteries without comprehensive testing. "What do you expect?" their family members are told, "She's 80 years old."

Physicians must learn to ask families for background information. Questions about behavioral, personality, and functional changes can help the physician to ascertain the presence of subtle changes that indicate an organic rather than a psychological disturbance.

If the doctors had asked me about Ray's symptoms during his first hospitalization, I could have provided them with a more accurate medical history. Together we could have defined the subtle changes that were taking place. I had much to offer — more that I realized. I knew that Ray was giving inaccurate information. I knew he filled the blanks in his memory in much the same way we do with dreams that we only partially remember. Often he did not understand the question, or remember it long enough to give a response. But I hesitated, not having been invited, to share with the physicians. Ray had become a passive, tentative, confused man. I feared that my speaking for him, correcting him, would be viewed as a factor in Ray's behavior and illness. Indeed, Ray was seen as weak and dependent whereas I appeared to be strong and aggressive. No one knew, including myself, what had happened to the two of us.

As part of the initial hospital assessment, Ray and I were asked to see a marriage therapist. The therapist felt that even if there was an organic component to Ray's illness, it was in Ray's interest to be passive. Misreading all the subtle, yet present signs, he saw Ray as strong and controlling. He told us that Ray knew that if he didn't function, I would. I believed that. I was vulnerable, misunderstanding the dynamics of what was happening. Frightened and angry by my inability to understand and control what was happening, I was responsive to anyone who attempted to help. An early diagnosis, although difficult to handle, certainly would have avoided the unnecessary pain of attacking our relationship — our greatest strength.

Families of cognitively impaired patients need a kind of support that is, for the most part, not available to us. They suffer in a way that those touched by other terminal diseases do not. They are alone, unable to prepare with their loved one for the end. Rather, they experience what Alzheimer's families come to understand as "the long goodbye" — a disease that takes the self before the body — a disease that robs one of dignity and humanity long before the outer shell no longer functions.

Family members are often at a loss. We are frightened, and often feel abandoned by family and friends. Because of our inability to reach the person we are losing and to make a significant difference in his life, we experience a profound sense of loss of control.

From the family members I have met who endure this living funeral, I have learned that they come to understand and accept the reality of this disease. But they also need support — even if there are no answers, and no effective treatment.

Near the end of Ray's hospitalization at Duke, one of his physicians called me aside one afternoon. We walked to an empty, private area where he asked me to sit down. With just a few minutes of his time, he offered some advice and concern which made me feel he could reach beyond the confines of his medical expertise. The caring perspective that he provided that afternoon gave me additional strength to cope with the uncertain, yet devastating, future we were to face.

I am convinced that the real caring for the patients comes from involvement with the family. Helping the family identify and maintain its own strength most assuredly results in better care for the patient. Working with victims and families of cognitively impaired and terminally ill patients takes time from the physician. Much of that time is needed to offer support, provide a sense of caring, understanding, openness and honesty.

Families have the right to information, guidance, and compassion from physicians. We think physicians have that special ability and knowledge. Physicians who do not have

the time to provide for families in this way would do well to refer patients to those who do.

Today there are an estimated two and a half million victims of Alzheimer's disease and related disorders in this country. When their family members are included as inescapable victims, the number swells to 15 million. As we enter the twenty-first century with promises of increased longevity, it is incumbent upon the medical community to learn how to care for cognitively impaired patients as well as their families.

With new technological advances and increased physician awareness, early and more accurate diagnosis may be a future reality. We hope medical treatments and cures will be forthcoming, but in the meantime, families must learn to cope with the devastation that dementia creates. Ultimately, we depend upon a knowledgeable, compassionate, and supportive medical community to respond to these needs. ■

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ZOVIRAX®
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Prevent genital herpes recurrences month after month with daily therapy.

(In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.)

Please see last page of this advertisement for brief summary of prescribing information.

ZOVIRAX®
(acyclovir)
CAPSULES

Help free your patients from recurrences.

Daily therapy

Coping with genital herpes is rarely easy. For some, the worst part is the pain and discomfort of frequent attacks—month after month, year after year. For others, the emotional burden presents a more difficult problem, leading to social isolation, anxiety, and diminished self-esteem.

Prevent or reduce recurrences

Although your patients have to live with herpes, they shouldn't have to suffer. Daily therapy with ZOVIRAX CAPSULES can help free them from the cycle of recurrent genital herpes. For many, one capsule three times a day can suppress recurrences completely while on therapy.

Generally well tolerated

Daily therapy with ZOVIRAX CAPSULES is generally well tolerated. The most frequent adverse reactions reported during clinical trials were headache, diarrhea, nausea/vomiting, vertigo, and arthralgia.

The physical and emotional difficulties posed by genital herpes are unique for each patient. The frequency and severity of recurrent episodes, as well as the emotional impact of the disease, should be considered when selecting daily therapy with ZOVIRAX CAPSULES.

Please see brief summary of prescribing information on next page.



Prevent recurrences month after month*

ZOVIRAX® (acyclovir) CAPSULES

Brief Summary

INDICATIONS AND USAGE: Zovirax Capsules are indicated for the treatment of initial episodes and the management of recurrent episodes of genital herpes in certain patients.

The severity of disease is variable depending upon the immune status of the patient, the frequency and duration of episodes, and the degree of cutaneous or systemic involvement. These factors should determine patient management, which may include symptomatic support and counseling only, or the institution of specific therapy. The physical, emotional and psychosocial difficulties posed by herpes infections as well as the degree of debilitation, particularly in immunocompromised patients, are unique for each patient, and the physician should determine therapeutic alternatives based on his or her understanding of the individual patient's needs. Thus Zovirax Capsules are not appropriate in treating all genital herpes infections. The following guidelines may be useful in weighing the benefit/risk considerations in specific disease categories:

First Episodes (primary and nonprimary infections — commonly known as initial genital herpes):

Double-blind, placebo-controlled studies have demonstrated that orally administered Zovirax significantly reduced the duration of acute infection (detection of virus in lesions by tissue culture) and lesion healing. The duration of pain and new lesion formation was decreased in some patient groups. The promptness of initiation of therapy and/or the patient's prior exposure to Herpes simplex virus may influence the degree of benefit from therapy. Patients with mild disease may derive less benefit than those with more severe episodes. In patients with extremely severe episodes, in which prostration, central nervous system involvement, urinary retention or inability to take oral medication require hospitalization and more aggressive management, therapy may be best initiated with intravenous Zovirax.

Recurrent Episodes:

Double-blind, placebo-controlled studies in patients with frequent recurrences (6 or more episodes per year) have shown that Zovirax Capsules given for 4 to 6 months prevented or reduced the frequency and/or severity of recurrences in greater than 95% of patients. Clinical recurrences were prevented in 40 to 75% of patients. Some patients experienced increased severity of the first episode following cessation of therapy; the severity of subsequent episodes and the effect on the natural history of the disease are still under study.

The safety and efficacy of orally administered acyclovir in the suppression of frequent episodes of genital herpes have been established only for up to 6 months. Chronic suppressive therapy is most appropriate when, in the judgement of the physician, the benefits of such a regimen outweigh known or potential adverse effects. In general, Zovirax Capsules should not be used for the suppression of recurrent disease in mildly affected patients. Unanswered questions concerning the human relevance of *in vitro* mutagenicity studies and reproductive toxicity studies in animals given very high doses of acyclovir for short periods (see Carcinogenesis, Mutagenesis, Impairment of Fertility) should be borne in mind when designing long-term management for individual patients. Discussion of these issues with patients will provide them the opportunity to weigh the potential for toxicity against the severity of their disease. Thus, this regimen should be considered only for appropriate patients and only for six months until the results of ongoing studies allow a more precise evaluation of the benefit/risk assessment of prolonged therapy.

Limited studies have shown that there are certain patients for whom intermittent short-term treatment of recurrent episodes is effective. This approach may be more appropriate than a suppressive regimen in patients with infrequent recurrences.

Immunocompromised patients with recurrent herpes infections can be treated with either intermittent or chronic suppressive therapy. Clinically significant resistance, although rare, is more likely to be seen with prolonged or repeated therapy in severely immunocompromised patients with active lesions.

CONTRAINDICATIONS: Zovirax Capsules are contraindicated for patients who develop hypersensitivity or intolerance to the components of the formulation.

WARNINGS: Zovirax Capsules are intended for oral ingestion only.

PRECAUTIONS: General: Zovirax has caused decreased spermatogenesis at high doses in some animals and mutagenesis in some acute studies at high concentrations of drug (see PRECAUTIONS — Carcinogenesis, Mutagenesis, Impairment of Fertility). The recommended dosage and length of treatment should not be exceeded (see DOSAGE AND ADMINISTRATION).

Exposure of Herpes simplex isolates to acyclovir *in vitro* can lead to the emergence of less sensitive viruses. The possibility of the appearance of less sensitive viruses in man must be borne in mind when treating patients. The relationship between the *in vitro* sensitivity of Herpes simplex virus to acyclovir and clinical response to therapy has yet to be established.

Because of the possibility that less sensitive virus may be selected in patients who are receiving acyclovir, all patients should be advised to take particular care to avoid potential transmission of virus if active lesions are present while they are on therapy. In severely immunocompromised patients, the physician should be aware that prolonged or repeated courses of acyclovir may result in selection of resistant viruses which may not fully respond to continued acyclovir therapy.

Drug Interactions: Co-administration of probenecid with intravenous acyclovir has been shown to increase the mean half-life and the area under the concentration-time curve. Urinary excretion and renal clearance were correspondingly reduced.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Acyclovir was tested in lifetime bioassays in rats and mice at single daily doses of 50, 150 and 450 mg/kg given by gavage. There was no statistically significant difference in the incidence of tumors between treated and control animals, nor did acyclovir shorten the latency of tumors. In 2 *in vitro* cell transformation assays, used to provide preliminary assessment of potential oncogenicity in advance of these more definitive life-time bioassays in rodents, conflicting results were obtained. Acyclovir was positive at the highest dose used in one system and the resulting morphologically transformed cells formed tumors when inoculated into immunosuppressed, syngeneic, weanling mice. Acyclovir was negative in another transformation system considered less sensitive.

In acute studies, there was an increase, not statistically significant, in the incidence of chromosomal damage at maximum tolerated parenteral doses of 100 mg/kg acyclovir in rats but not Chinese hamsters; higher doses of 500 and 1000 mg/kg were clastogenic in Chinese hamsters. In addition, no activity was found after 5 days dosing in a dominant lethal study in mice. In 6 of 11 microbial and mammalian cell assays, no evidence of mutagenicity was observed. At 3 loci in a Chinese hamster ovary cell line, the results were inconclusive. In 2 mammalian cell assays (human lymphocytes and L5178Y mouse lymphoma cells *in vitro*), positive responses for mutagenicity and chromosomal damage occurred, but only at concentrations at least 400 times the acyclovir plasma levels achieved in man.

Acyclovir has not been shown to impair fertility or reproduction in mice (450 mg/kg/day, p.o.) or in rats (25 mg/kg/day, s.c.). At 50 mg/kg/day s.c. in the rat, there was a statistically significant increase in post-implantation loss, but no concomitant decrease in litter size. In female rabbits treated subcutaneously with acyclovir subsequent to mating, there was a statistically significant decrease in implantation efficiency but no concomitant decrease in litter size at a dose of 50 mg/kg/day. No effect upon implantation efficiency was observed when the same dose was administered intravenously. In a rat peri- and postnatal study at 50 mg/kg/day s.c., there was a statistically significant decrease in the group mean numbers of corpora lutea, total implantation sites and live fetuses in the F_1 generation. Although not statistically significant, there was also a dose related decrease in group mean numbers of live fetuses and implantation sites at 12.5 mg/kg/day and 25 mg/kg/day, s.c. The intravenous administration of 100 mg/kg/day, a dose known to cause obstructive nephropathy in rabbits, caused a significant increase in fetal resorptions and a corresponding decrease in litter size. However, at a maximum tolerated intravenous dose of 50 mg/kg/day in rabbits, there were no drug-related reproductive effects.

Intraperitoneal doses of 320 or 80 mg/kg/day acyclovir given to rats for 1 and 6 months, respectively, caused testicular atrophy. Testicular atrophy was persistent through the 4-week postdose recovery phase after 320 mg/kg/day; some evidence of recovery of sperm production was evident 30 days postdose. Intravenous doses of 100 and 200 mg/kg/day acyclovir given to dogs for 31 days caused aspermatogenesis. Testicles were normal in dogs given 50 mg/kg/day, i.v. for one month.

Pregnancy: ***Teratogenic Effects:*** Pregnancy Category C. Acyclovir was not teratogenic in the mouse (450 mg/kg/day, p.o.), rat (50 mg/kg/day, s.c.) or rabbit (50 mg/kg/day, s.c. and i.v.). There are no adequate and well-controlled studies in pregnant women. Acyclovir should not be used during pregnancy unless the potential benefit justifies the potential risk to the fetus. Although acyclovir was not teratogenic in animal studies, the drug's potential for causing chromosome breaks at high concentration should be taken into consideration in making this determination.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when Zovirax is administered to a nursing woman. In nursing mothers, consideration should be given to not using acyclovir treatment or discontinuing breastfeeding.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS — Short-Term Administration: The most frequent adverse reactions reported during clinical trials were nausea and/or vomiting in 8 of 298 patient treatments (2.7%) and headache in 2 of 298 (0.6%). Less frequent adverse reactions, each of which occurred in 1 of 298 patient treatments (0.3%), included diarrhea, dizziness, anorexia, fatigue, edema, skin rash, leg pain, inguinal adenopathy, medication taste and sore throat.

Long-Term Administration: The most frequent adverse reactions reported in studies of daily therapy for 3 to 6 months were headache in 33 of 251 patients (13.1%), diarrhea in 22 of 251 (8.8%), nausea and/or vomiting in 20 of 251 (8.0%), vertigo in 9 of 251 (3.6%), and arthralgia in 9 of 251 (3.6%). Less frequent adverse reactions, each of which occurred in less than 3% of the 251 patients (see number of patients in parentheses), included skin rash (7), insomnia (4), fatigue (7), fever (4), palpitations (1), sore throat (2), superficial thrombophlebitis (1), muscle cramps (2), pars planitis (1), menstrual abnormality (4), acne (3), lymphadenopathy (2), irritability (1), accelerated hair loss (1), and depression (1).

DOSAGE AND ADMINISTRATION: Treatment of initial genital herpes: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 10 days (total 50 capsules).

Chronic suppressive therapy for recurrent disease: One 200 mg capsule 3 times daily for up to 6 months. Some patients may require more drug, up to one 200 mg capsule 5 times daily for up to 6 months.

Intermittent Therapy: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 5 days (total 25 capsules). Therapy should be initiated at the earliest sign or symptom (prodrome) of recurrence.

Patients With Acute or Chronic Renal Impairment: One 200 mg capsule every 12 hours is recommended for patients with creatinine clearance ≤ 10 ml/min/1.73/m^2.

HOW SUPPLIED: Zovirax Capsules (blue, opaque) containing 200 mg acyclovir and printed with "Wellcome ZOVIRAX 200"- Bottles of 100 (NDC-0081-0991-55) and unit dose pack of 100 (NDC-0081-0991-56).

Store at 15°-30°C (59°-86°F) and protect from light.

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*In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.

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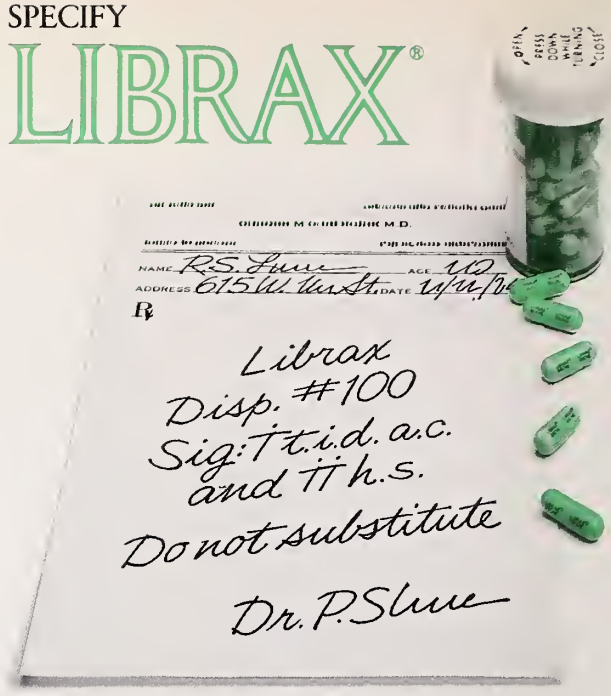
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Please consult complete prescribing information, a summary of which follows:

* **Indications:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:
"Possibly" effective: as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.
Final classification of the less-than-effective indications requires further investigation.

Contraindications: Glaucoma; prostatic hypertrophy, benign bladder neck obstruction; hypersensitivity to chlordiazepoxide HCl and/or clidinium Br.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librium® (chlordiazepoxide HCl/Roche) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions) reported following discontinuation of the drug.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.**

As with all anticholinergics, inhibition of lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship not established.

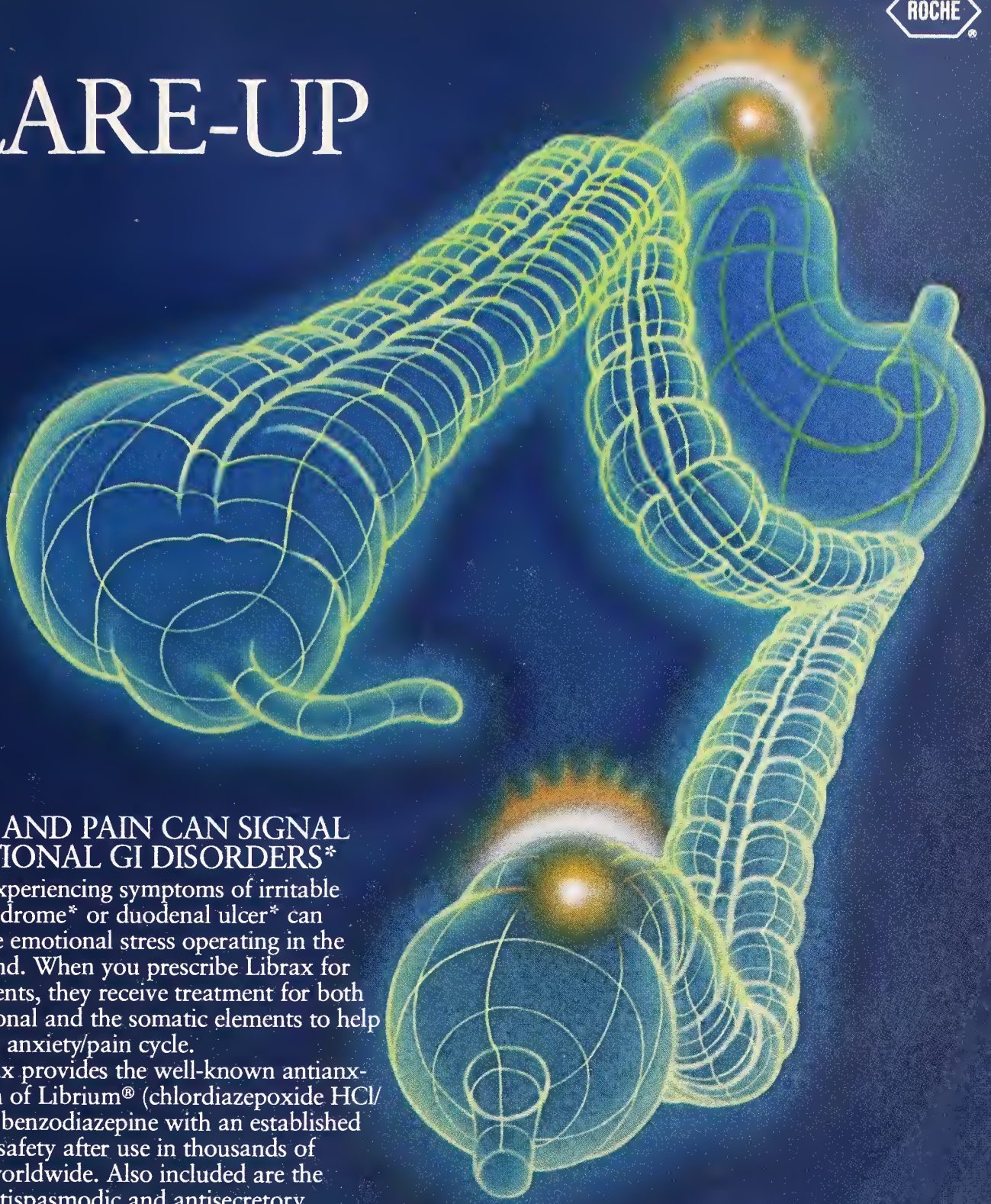
Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated; avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered: isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction; changes in EEG patterns may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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*Librax has been evaluated as possibly effective as adjunctive therapy in the treatment of duodenal ulcer and the irritable bowel syndrome.

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For a product demonstration, stop by the PPM booth [#15] at the North Carolina Medical Society meeting.

An Unusual Presentation of Pseudomembranous Colitis

Russell D. Yang, Ph.D., M.D., and
Virginia Byers Kraus, M.D.

Pseudomembranous colitis (PMC) is a distinct clinical entity first described in the late 19th century.[1] Over recent years, PMC has become a serious complication of antibiotic use. We report an unusual case of PMC manifested by perirectal pain, diarrhea and a high peripheral white blood cell count.

The patient, a 49-year-old woman, was hospitalized at the Duke University Medical Center with fever, abdominal pain and volume depletion. She had enjoyed good health except for chronic constipation requiring regular treatment with Docusate Sodium (Colace) and Senokot tablets until developing painful hemorrhoids. She had undergone a routine hemorrhoidectomy without administration of perioperative antibiotics. The patient had tolerated the procedure well except for a postoperative *Escherichia coli* urinary tract infection. Under treatment with Sulfamethoxazole-Trimethoprim (one tablet, double strength, twice a day), she had been discharged from the hospital. Over the next three days, she had developed perirectal pain on defecation, severe watery diarrhea, and abdominal distention.

Upon presentation to the emergency room, she appeared acutely ill with fever, orthostasis, and a white count of 19,600 with a left shift. Granulocytes contained numerous toxic granules on examination of the peripheral smear. Flat plate and upright abdominal roentgenograms revealed edematous folds of bowel with "thumb-printing" features (see figure 1) and the absence of free air. The urinalysis was unremarkable.

Admission physical examination was significant for a markedly distended and diffusely tender abdomen with active bowel sounds. The rectal examination revealed an exquisitely tender rectum with external hemorrhoids and multiple sutures from her recent surgery. There was no perirectal abscess and the rectal vault contained hard stool which was guaiac negative.

The fecal impaction was relieved with enemas. Intravenous Gentamicin was initiated to complete a full seven-day course of therapy for her documented urinary tract infection. Sulfamethoxazole-Trimethoprim was discontinued. On the second day of admission and five days following her initial dose of Sulfamethoxazole-Trimethoprim, the white blood cell count had climbed to 49,500/mm^3. Blood and urine cultures were negative; sputum cultures grew normal flora. The diagnosis of an intra-abdominal abscess was entertained, but a subsequent abdominal computerized tomogram demonstrated only gross, irregular thickening of the colonic wall consistent with diffuse colitis (figure 2, facing page). Oral Vancomycin therapy was started. Stool samples were positive for *Clostridia difficile* toxin at a 1:16 dilution. An irregular mucosa was felt upon rectal examination. Proc-

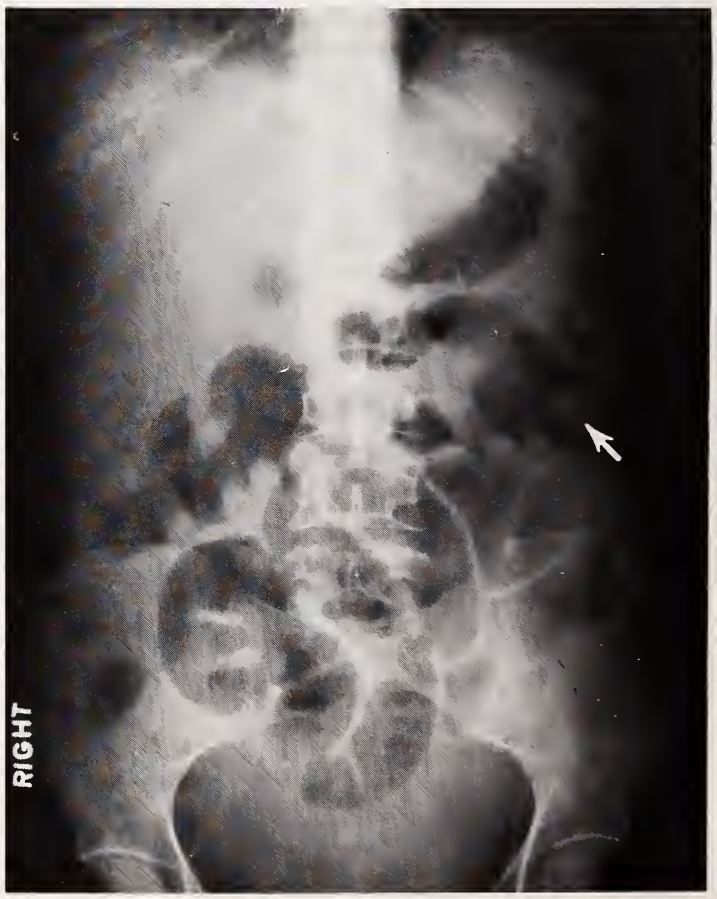


Figure 1. "Thumb printing" seen on flat plate of the abdomen.

From the Department of Internal Medicine, Box 3211, Duke University Medical Center, Durham 27710.



Figure 2. Bowel wall edema

toscopy was performed with a colonoscope to 10 cm which revealed a diffusely erythematous mucosa with raised yellow plaques which could easily be detached from the mucosa by biopsy forceps (see figure 3). These plaques were pathognomonic of PMC.

Following three days of Vancomycin therapy, the white blood cell count had decreased to 8,700/mm^3. Within five days, the abdominal distention and diarrhea had resolved. A total of 14 days of oral Vancomycin (250 mg q 6 hours) was administered. The patient was discharged from the hospital in good condition 19 days following admission.

Discussion

We present this case of antibiotic-associated pseudomembranous colitis because it has both classic roentgenographic features (figures 1 and 2) and endoscopic features (figure 3), as well as atypical findings of constipation and a leukemoid reaction.



Figure 3. Endoscopic photograph of pseudomembranes. Yellow spots are plaques (white spots are light reflections).

PMC is a dreaded complication of antibiotic administration.[1] It has been reported following administration of virtually every antibiotic. Ampicillin, Clindamycin, and the Cephalosporins are the most frequent offenders. PMC associated with Sulfamethoxazole-Trimethoprim is well documented and occurs commonly, although less frequently.[2] In this particular case, PMC occurred after only three days of oral Sulfamethoxazole-Trimethoprim therapy. Indeed, Bartlett reports a severe episode of PMC after only one dose of this antibiotic.[1] PMC tends to occur more frequently with oral administration of the antibiotic and is unrelated to dose or duration of treatment.[1] In addition, even if a patient tolerates an antibiotic initially, it is possible for PMC to develop with subsequent administration.

The occurrence of a significant leukemoid reaction to a white blood count of 49,500/mm^3 in response to PMC is unusual. Leukocytosis in PMC is variable, but usually averages 15,000/mm^3.[1] The highest previously reported white blood cell count is 45,000/mm^3.[3] This finding reflects the clinical diversity of patients with PMC and emphasizes the need to consider such a diagnosis in the appropriate clinical setting.

Our case demonstrates the classic roentgenographic and proctoscopic findings of PMC. Proctoscopy is the initial diagnostic study of choice in PMC. Nevertheless, examination of plain-films of the abdomen can be quite helpful.[4,5] Roentgenograms usually reveal gaseous distention of the colon and thickened, edematous folds of bowel wall with "thumb-printing" which are universal in distribution.[5] Small bowel involvement has also been reported.[4]

These roentgenographic findings are not pathognomonic of PMC, and the acute stages of inflammatory bowel disease (especially the "toxic megacolon" associated with ulcerative colitis), ischemia and infarction of the bowel, and other non-specific forms of colitis[5] should also be considered. Ulcerative colitis-associated "toxic megacolon" can be distinguished roentgenographically from PMC by its thin colonic walls. Bowel ischemia, like PMC, can be manifested by "thumb-printing," but its distribution is segmental and may involve the small bowel more extensively than would PMC. Bowel infarction differs from PMC in presenting as a generalized ileus.[5]

The mainstay of therapy for antibiotic-associated PMC is withdrawal of the offending agent. For specific therapy, administration of oral Vancomycin has been used most extensively.[1,6,7] However, the optimal dosage has not been established. It ranges from 125 to 500 mg four times a day.[6,7] Metronidazole, Bacitracin, and Cholestyramine[1,8] are also effective, although relapse rates tend to be higher with these medications.

A major disadvantage of treatment with Vancomycin is its high cost — more than $80 per day. We were able to minimize the expense of administering Vancomycin by saving the unused portion of each 500 mg vial for subsequent doses instead of discarding the excess. ■

References

1 Bartlett JG. Antibiotic-associated colitis. Disease-A-Month, December 1984, pp. 1-54.

2 Bartlett JG. Antimicrobial agents implicated in *Clostridium difficile* toxin associated diarrhea or colitis. Johns Hopkins Med J 1981;149:6-9.

3 Bartlett JG, Willey SH, Chang TW, Lowe B. Cephalosporin-associated pseudomembranous colitis due to *Clostridium difficile*. J Am Med Assoc 1979;242:2683-5.

4 Feinberg SB. The roentgen findings in severe pseudomembranous enterocolitis. Radiology 1960;74:778-82.

5 Stanley RJ, Melson GL, Tedesco FJ, Saylor JL. Plain-film findings in severe pseudomembranous colitis. Radiology 1974;118:7-11.

6 Bartlett JC, Tedesco FJ, Shull S, et al. Symptomatic relapse after oral Vancomycin therapy on antibiotic-associated pseudomembranous colitis. Gastroenterol 1980;78:431-4.

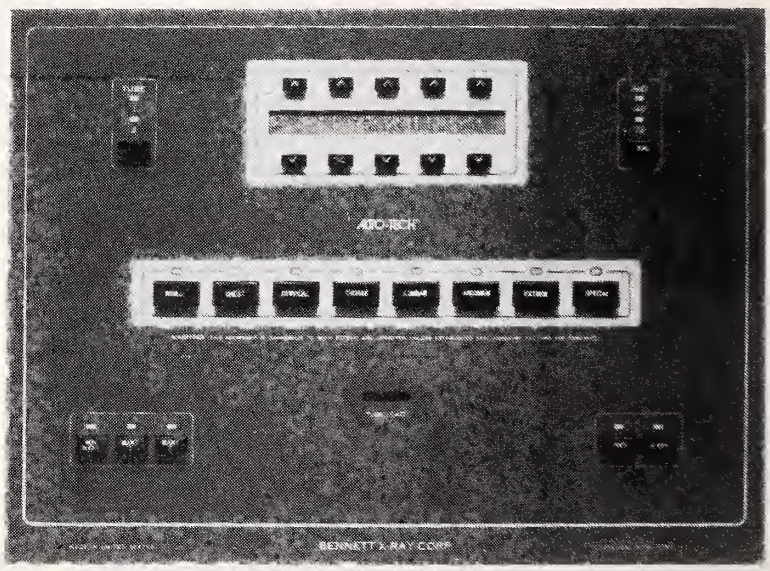
7 Silva J, Batts DH, Fekety R, et al. Treatment of *Clostridium difficile* colitis and diarrhea with Vancomycin. Am J Med 1981;71:815-22.

8 Dudley MN, McLanglin JC, Carrington G, et al. Oral Bacitracin vs. Vancomycin therapy for *Clostridium difficile* induced diarrhea. Arch Int Med 1986;146:1101-4.

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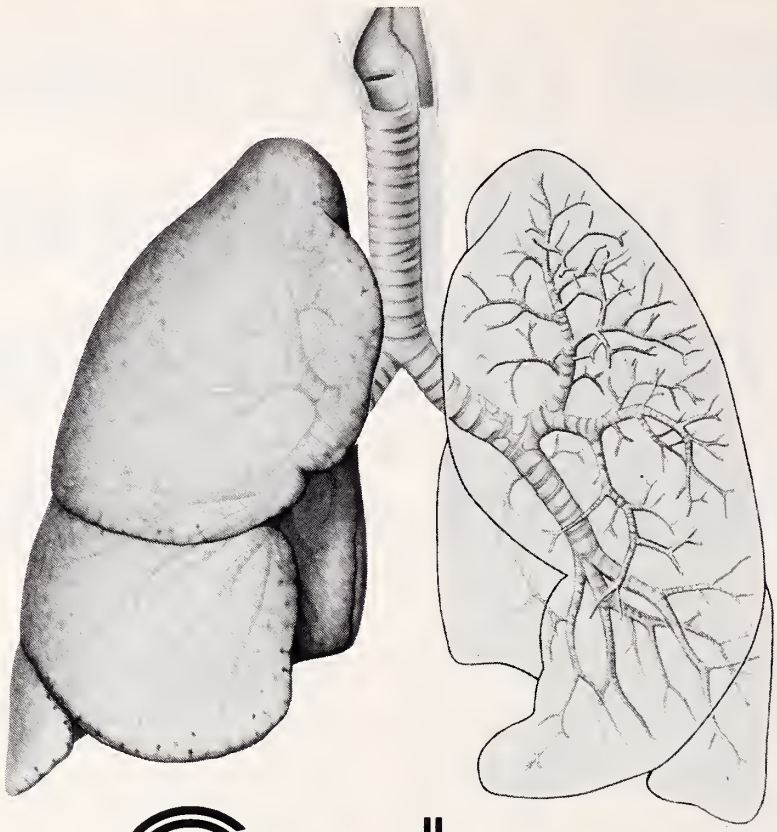
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Contraindications: Known allergy to cephalosporins.

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Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:

- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- In renal impairment, safe dosage of Ceclor may be lower than that usually recommended. Ceclor should be administered with caution in such patients.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:

- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, erythema multiforme, serum-sickness-like reactions): 1.5%; usually subside within a few days after cessation of therapy. These reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%.

Abnormalities in laboratory results of uncertain etiology

- Slight elevations in hepatic enzymes.
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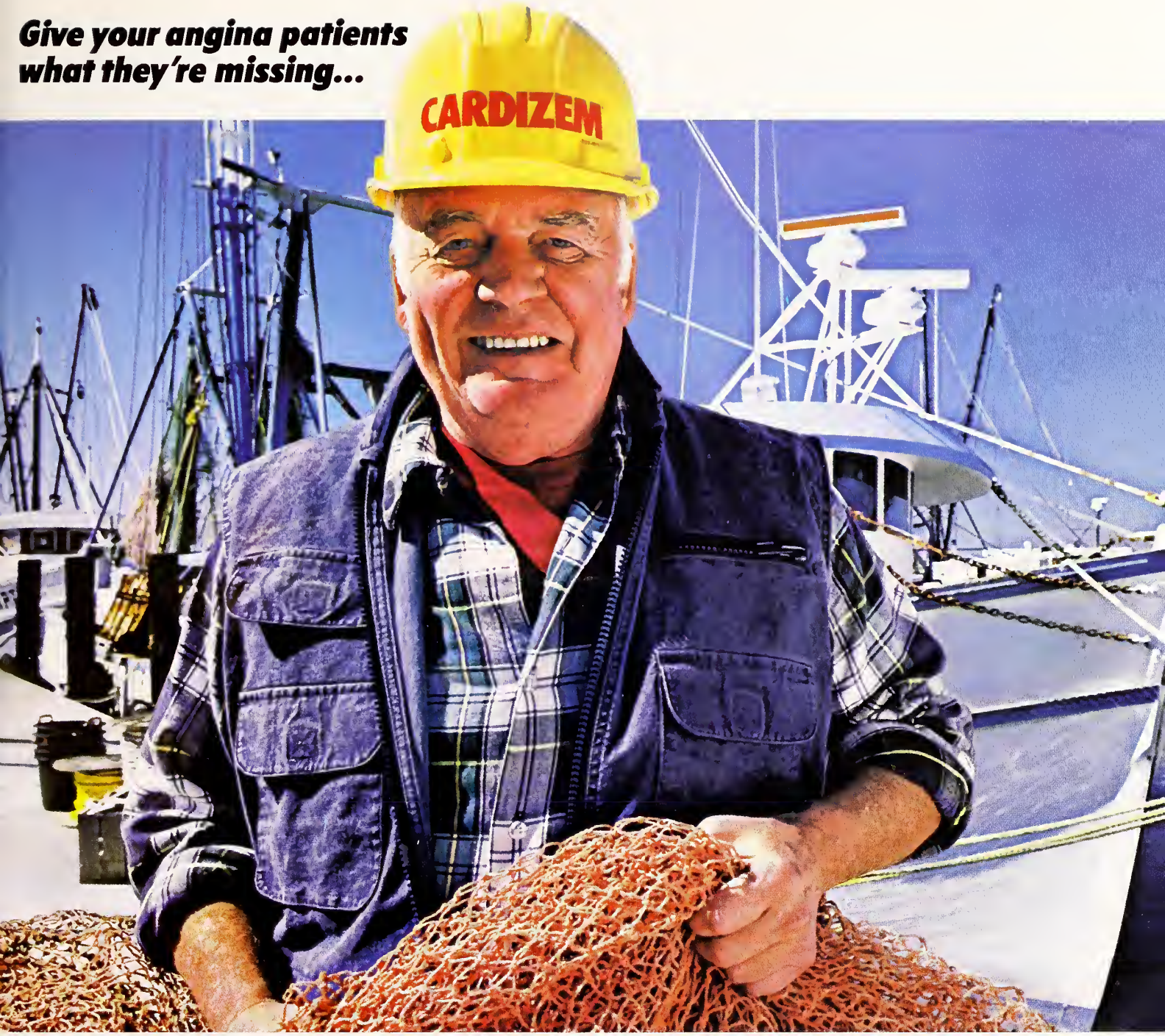
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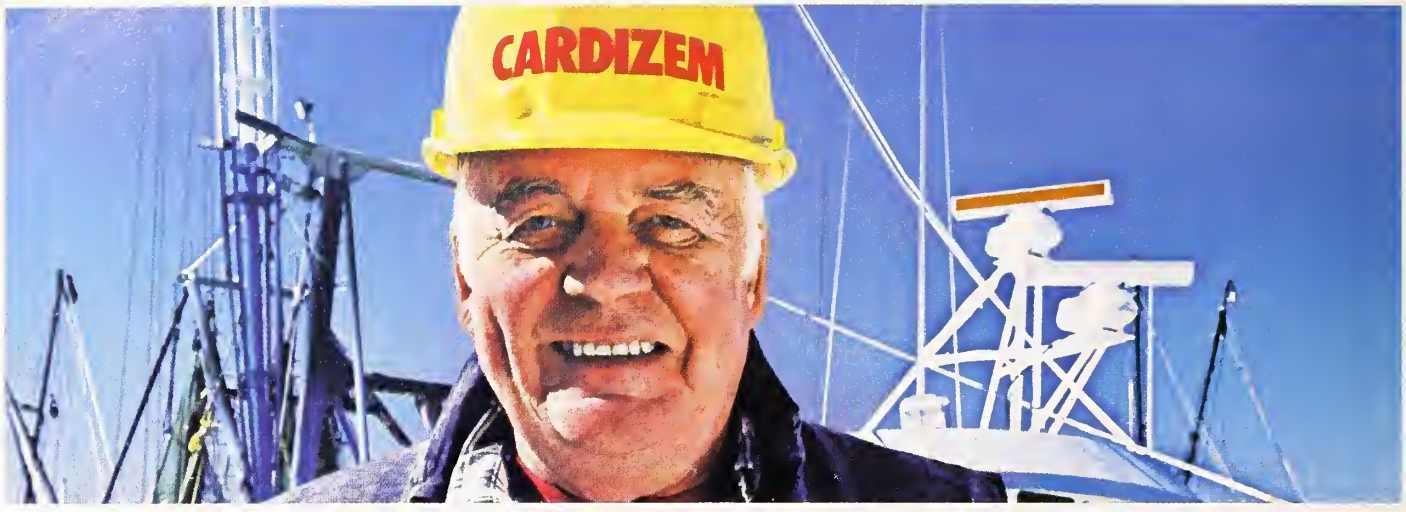
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Professional Use Information

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CONTRAINDICATIONS
CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. ***Cardiac Conduction.*** *CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1,243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.*
2. ***Congestive Heart Failure.*** *Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt).*
   Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. ***Hypotension.*** *Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.*
4. ***Acute Hepatic Injury.*** *In rare instances, significant elevations in enzymes such as alkaline phosphatase, CPK, LDH, SGOT, SGPT, and other symptoms consistent with acute hepatic injury have been noted. These reactions have been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertain in most cases, but probable in some. (See PRECAUTIONS.)*

PRECAUTIONS
General. *CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.*

Drug Interaction. *Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)*

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. *A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.*

Pregnancy. *Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.*

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. *Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted.*

Pediatric Use. *Safety and effectiveness in children have not been established.*

ADVERSE REACTIONS
Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences as well as their frequency of presentation are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%). In addition, the following events were reported infrequently (less than 1%):

Cardiovascular:	*Angina, arrhythmia, AV block (first degree), AV block (second or third degree — see conduction warning), bradycardia, congestive heart failure, flushing, hypotension, palpitations, syncope.*
Nervous System:	*Amnesia, gait abnormality, hallucinations, insomnia, nervousness, paresthesia, personality change, somnolence, tinnitus, tremor.*
Gastrointestinal:	*Anorexia, constipation, diarrhea, dysgeusia, dyspepsia, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH (see hepatic warnings), vomiting, weight increase.*
Dermatologic:	*Petechiae, pruritus, photosensitivity, urticaria.*
Other:	*Amblyopia, dyspnea, epistaxis, eye irritation, hyperglycemia, nasal congestion, nocturia, osteoarticular pain, polyuria, sexual difficulties.*

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: alopecia, gingival hyperplasia, erythema multiforme, and leukopenia. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

Issued 7/86

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References: ***1.*** *Pepine CJ, Feldman RL, Hill JA, et al: Clinical outcome after treatment of rest angina with calcium blockers: Comparative experience during the initial year of therapy with diltiazem, nifedipine, and verapamil. Am Heart J 1983, 106(6):1341-1347.* ***2.*** *Shapiro W: Calcium channel blockers: Actions on the heart and uses in ischemic heart disease. Consultant 1984;24(Dec):150-159.* ***3.*** *Johnston DL, Lesoway R, Humen DP, et al: Clinical and hemodynamic evaluation of propranolol in combination with verapamil, nifedipine and diltiazem in exertional angina pectoris: A placebo-controlled, double-blind, randomized, crossover study. Am J Cardiol 1985;55:680-687.* ***4.*** *Cohn PF, Braunwald E: Chronic ischemic heart disease, in Braunwald E (ed): Heart Disease: A Textbook of Cardiovascular Medicine, ed 2. Philadelphia, WB Saunders Co, 1984, chap 39.* ***5.*** *Schroeder JS: Calcium and beta blockers in ischemic heart disease: When to use which. Mod Med 1982;50(Sept):94-116.*

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For Patients

VOLUME 48/NUMBER 4/APRIL 1987

Fire Fighters in North Carolina
In-Line-Of-Duty Deaths, 1972-1985

LUCY FORT, R.N., AND PATRICIA D. GRIGGS, R.N.

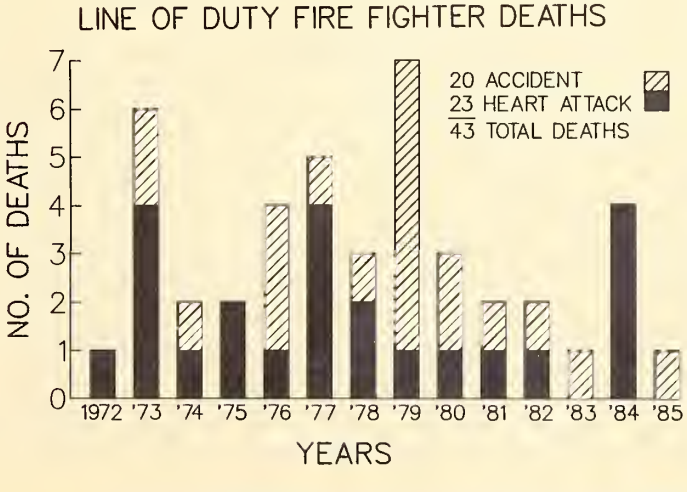
The tragedy starts when a pot of beans is accidentally left to cook during church. A neighbor sees the smoke, and the fire department responds. The fire fighters make entry and aggressively search for the fire and its victims as they have done so many times before. Then the unthinkable occurs: a flash of fire, the sound of a crashing roof, cries for help, one or all signalling that a fire fighter is in trouble.

Fire fighting is the nation's most dangerous occupation. Each year, nationwide, there are about 140 deaths reported as caused by fire fighting activities. In North Carolina, there were 43 reported deaths of fire fighters in the line of duty from 1972 through 1985. The causes of death were heart attack, vehicle accidents, and other kinds of accidents (figure 1).

Twenty-three deaths were attributed to coronary heart disease. This represents the largest cause of death (54%) in the entire group. Of these 23 fire fighters, two had medical histories indicating high blood pressure, two had had previous myocardial infarctions (heart attacks), one had undergone coronary bypass surgery, and one had a history of "heart problems." It is important to note that a large majority of those who suffered heart attack deaths had no reported previous symptoms of heart disease. In most studies, the incidence of sudden death as the initial symptom of coronary heart disease is about 30%. The fact that the figure is higher in this group of fire fighters may be a function of special stresses that are part of fire fighting activities.

Most people associate myocardial infarction with the 50 and above age group, but approximately 33% of the fire fighters who died from heart attack were younger than 49 (figure 2, next page). Three of the victims were between 35 and 39 years of age; four were between the ages of 40 and 49 years; five were between 50 and 59

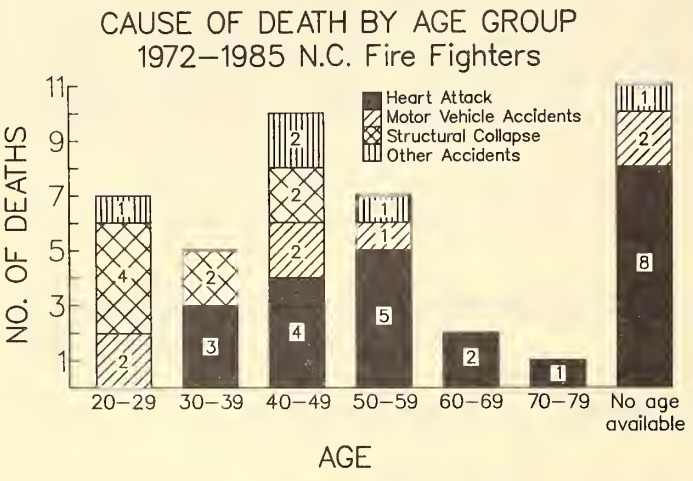
Figure 1



From Orange County Emergency Services, Orange County Court House, Hillsborough 27278.

years of age; two were between 60 and 69; and one was older than 70. Unfortunately, ages were unavailable for eight of the heart attack victims.

Figure 2



Extreme Exertion and Myocardial Infarction

One case involved a 41-year-old assistant chief with a history of high blood pressure who was in charge of activities at a cotton mill fire. He stayed in the mill for long periods of time directing the efforts of fire fighters, pulling hoses and doing inspections. After the fire was out, the assistant chief returned home but complained of a heavy sensation in his chest. He was put into a private car where he collapsed and died on the way to the hospital.

In another case, a 35-year-old fire fighter answered an alarm to a restaurant fire. He carried the hose from the truck and directed a stream of water on the fire while holding the hose above his head. He and another fire fighter took turns doing this job. He complained of pains in his chest and inability to breathe. After the fire, he returned home but continued to complain of chest pains and shortness of breath. He evidently decided not to seek medical care. Finally, after eight days, he was admitted to the hospital. He died 13 days after the fire from complications of a myocardial infarction.

A 52-year-old career fire fighter was dispatched on a winter day to a residential structure fire. The smoke was heavy, filling the area from two feet above the floor to the ceiling. He did not use self-contained breathing apparatus. Shortly after the fire was suppressed, he walked to a neighboring house to interview witnesses. Immediately upon entering, he complained of shortness of breath. He collapsed and later died. This man had experienced heart problems for 10 years and had taken medication regularly for these problems.

A 56-year-old retiree with a history of heart problems joined a volunteer fire department with the assigned duty of pump operator. A pump operator stays by the truck and operates the pumping valves. This day he received a fire alarm for a brush fire. Finding upon arrival that another fire fighter was operating the pump, he began pulling a one-inch hose from the right side of the truck around the front of the truck and across the street. He had pulled the hose approximately 30 feet out when another fire fighter began to assist him. Together, they pulled approximately 100 feet of hose. Within a few minutes, the second fire fighter felt a tug on the hose and turned to discover that his colleague had fallen to the ground dead. He had suffered a heart attack.

Myorcardial infarctions are the end result of a disease called arteriosclerosis, or hardening of the arteries. This disease is a process of deposition of fat and scar in artery walls. The result is obstruction of normal blood flow and damage to organs requiring that blood flow. In the case of the heart, the obstruction is in the coronary arteries. The reduction of blood flow results in weakening or death of the heart's muscle. Arteriosclerotic coronary heart disease leading to heart attack is the most common killer of all Americans, not just fire fighters. However, on-duty fire fighters are probably especially susceptible to having sudden cardiac events — myocardial infarction and sudden death — because the tremendous energy expended in fighting fire greatly increases the need of the heart's muscle for oxygen-carrying blood. It is possible for people to reduce the risk of developing arteriosclerosis and the associated risk of heart attack by reducing known risk factors such as high blood cholesterol, high blood pressure, cigarette smoking and physical inactivity.

Deaths from Motor Vehicle Accidents

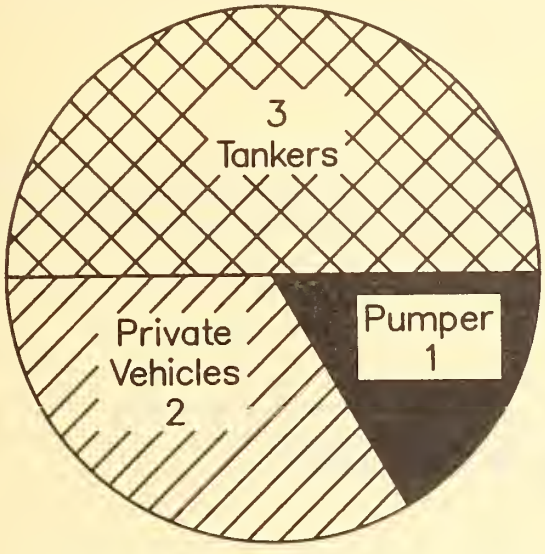
There were 20 fire fighter deaths in North Carolina due to accidents during our study period, constituting the other major group of cases. Motor vehicle accidents accounted for seven of these deaths. Three of the victims were driving filled tankers to the fire scene when they lost control of the vehicles (figure 3, facing page). In one case, the victim was thrown out and the tanker overturned onto him. In the other two cases, the drivers lost control and ran into trees. In another fire apparatus accident, the driver lost control of a pumper during a heavy rainstorm.

Two of the motor vehicle accidents involved fire fighters who were driving private vehicles to a fire. One of the victims died when his pickup truck was struck by a truck loaded with lumber. Another victim drowned after he lost control on a curve and his truck plunged into a river. Finally, a fire fighter sustained massive head injuries when he was struck by a vehicle while directing traffic at a fire scene.

The relatively high number of accidents involving loaded tankers deserves special comment. These vehicles are

inherently dangerous because the liquid load can shift rapidly and with great force. Some fire service tankers are especially dangerous because they are built with too few baffles. Many such vehicles were converted for fire department use. Finally, of course, the use of these vehicles in North Carolina is almost always on rural roads.

Figure 3



DEATHS BY TYPE OF VEHICLE
1972 — 1985

This set of circumstances is probably responsible for a disproportionate number of accidents and is a reason for the fire service leadership to promote special training and educational programs for personnel who operate tankers.

Accidents During Fire Fighting Operations

Structure fires accounted for eight accidental deaths. On May 25, 1979, five people, including four fire fighters, were killed when a two-story burning building suddenly exploded, burying them under brick and cement. These people were all outside the structure when the explosion occurred. The subsequent investigation indicated that an arsonist had placed a highly explosive liquid propellant in the building.

One fire fighter died of burns following a probable backdraft explosion. This fire fighter was one of two who entered a building to extinguish small fires set by radiant heat from a nearby burning building. They were clothed fully in canvas duck protective clothing and were using self-contained breathing apparatus. Both fire fighters suffered extensive burns, although their clothing did not ignite.

Another fire fighter died when a church steeple collapsed, trapping him in the burning church. Several fire fighters were operating hand lines inside the church in an effort to gain access to the fire in the balcony. During this process, the officer-in-charge noticed instability in the steeple and called for immediate evacuation. Before the crew was clear of the building, the support for the steeple gave way and the steeple collapsed. One fire fighter was trapped and died of massive injuries, one suffered a fracture of a leg, and a third was overcome by smoke. This tragedy highlights the extreme hazard presented by heavy structures (or appliances such as air conditioning units) situated above fire-involved areas of burning buildings.

A fall through the roof into a burning building caused the death of a 27-year-old career fire fighter. He was reported to have stepped onto a soft area of roof over an area of intense attic fire. This incident should reinforce standard operating procedures that require routine use of roof ladders.

Another fire fighter was trapped in the basement of a burning building. He was evidently operating on a hand line with two other fire fighters when he became separated. Shortly thereafter, the fire became intense, and it was impossible to reach him in time to rescue him. He was using full protective clothing, including self-contained breathing apparatus.

Miscellaneous Accidents

In addition to fire or rescue-related accidents, there were several in-line-of-duty deaths that were unrelated to such activities. One fire fighter died from injuries suffered in a fall from a tree he was trimming in the station yard. Another was electrocuted while installing a fire extinguisher on a boat. The fire extinguisher had been sold as part of a fund-raising project for the department.

Finally, there was a fire fighter who drowned while assisting in the search for a body. Although this review is limited to deaths of fire fighters, we would like to note that at least three rescue squad members have drowned in North Carolina under similar circumstances during this 14-year period.

Observations and Recommendations

The most common cause of service-related death among North Carolina's fire fighters is heart attack. This is true at the national level as well. While heart attack is also the most common mortal disease of all Americans, there is reason to believe that the risk for fire fighters is greater because of the level of exertion and stress associated with fighting fire. In any case, the high numbers of fire fighters affected by heart disease warrant a major effort on the part of the fire service communuty to identify fire fighters with known heart disease and provide them with

appropriate protection from the stresses of fighting fire. Furthermore, there is ample need for efforts to reduce the known risk factors for heart disease among young fire fighters.

A second important observation from this review is that water tanker accidents were disproportionate in number. The safe operation of tankers should be emphasized in training programs, and standard procedures governing tanker operation on the highways should be adopted and enforced by every rural fire department.

Finally, deaths during major structure fires have occurred with unfortunate frequency in this country over the years; and North Carolina is not immune to these tragedies. The lessons learned from our experiences highlight basic safety principles that should be observed at every fire. However, it is also clear that aggressive, interior attacks on fires in large commercial or public buildings necessarily involve a significant risk to the lives of fire fighters. ■

Acknowledgment

The authors express special appreciation to Mrs. Clara Pittman, Director of the North Carolina Firemen's and Rescue Squad Worker's Pension Fund, Department of the State Auditor.

Reference

1 This information was acquired from the records of the North Carolina Firemen's and Rescue Squad Workers' Pension Fund.

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— A message from this magazine and the Food and Drug Administration

Drug Solution Among High School Students

RICHARD D. ADELMAN, M.D.

The use and abuse of alcohol and other drugs is a problem of great concern to the medical community. The American Academy of Pediatrics task force recognizes drug and alcohol abuse as a "major area of concern and activity for the organization."[1] Among the young, especially teenagers, substance abuse harms physical health, psychological health, social health, and personal health.

Physical health is affected through increased morbidity from acute and chronic illnesses and increased morbidity and mortality from motor vehicle accidents and other accidents.[2] Teenagers suffer an estimated 8,000 deaths per year from alcohol-related highway accidents.[3] *Psychological* health problems can result from a change in the sense of well-being. The *social* health suffers in diminishment of the social effectiveness and ability to accomplish individual tasks. Probably most affected by drug intake is the *personal* health, which is the adolescent's realization of his or her individual potential.

Four Years of Surveys

In order to establish whether a drug or alcohol problem exists in the high school population of Wake County, and to define the extent of the problem, Drug Action of Wake County, Inc., has commissioned surveys in local high schools.[4] These surveys have been done annually, beginning in 1983. They show that 50% of the students in the tenth to twelfth grades are moderate to heavy drinkers of alcohol, 25% are light drinkers, and only 25% surveyed stated that they did not drink alcohol.

Over 50% of the students surveyed used marijuana or hashish. The use of cocaine in various forms has been increasing each year, and the use of other drugs — inhalants, hallucinogens, stimulants, barbiturates, tranquilizers, heroin, and others — is all too common.

After establishing the existence of the problem, we should take the important next step, I felt, of asking the individuals involved for possible solutions. Their suggested options would be more easily accepted than those passed down from other sources, and would have a better chance of solving the drug and alcohol problem. In searching the literature, no study could be found[5] which asked high school students, their parents, their teachers and administrators what they thought it would take to resolve the immense problem. To address this need, the North Raleigh Rotary Club, under my supervision, developed a new survey instrument: the Drug Action Survey. This survey is unique in enlisting these formerly overlooked people as its participants.

The Drug Action Survey

In November, 1986, the Drug Action Survey was distributed to the students, parents of the students, and administrators at Millbrook High School in Raleigh. Millbrook High School students come from middle-class families in the north Raleigh area primarily. Of the 2,325 students, 84.9% are white and 15.1% minority races, mainly black.[6] Responses were received from 504 freshmen, 552 sophomores, 489 juniors, and 478 seniors, totaling 2,023 students. In addition, 443 parents and 86 teachers and administrators responded to the survey.

First, respondents were asked if they agreed that a problem existed. Eighty-six percent of students, 97% of parents, and 94% of teachers and administrators agreed that the problem of alcohol and drug abuse existed among the high school students.

Next the participants were asked specifically about alcohol, then marijuana, and then other drugs. When asked who would be most helpful in counseling the students about the alcohol problem, the students responding favored student (peer) counselors. The parents and the administration favored "drug action" (adult) counselors. Least favored among all groups were the existing school counselors and parent counselors. Very few of the responders from any group preferred that school counselors or parents be involved in alcohol problem counseling. The students and the administration favored group as opposed to individual counseling, whereas the parents

From Capital Family Medicine, P.A., 3320 Executive Drive, Suite 214, Raleigh 27609.

viewed group and individual counseling as equally favorable.

When asked about school programs that might deal with alcohol problems, all favored a chapter of Alcoholics Anonymous for teens, with Students Against Drunk Driving (SADD) close behind. Concerning penalties on those who abuse alcohol, all groups favored mandatory programs of counseling, and every group's least favored options were expulsion and suspension.

Marijuana, cocaine, and other drugs were not treated in the same manner as alcohol by the students. Instead of favoring peer student counselors for these drugs, all groups felt that the drug action counselors would be best to treat this problem. When asked which programs would be best, the students and administration were evenly divided between Drug Education School and Narcotics Anonymous, whereas the parents were very strongly in favor of Drug Education School. All groups felt that the penalties should begin with mandatory programs of counseling. The second most favored penalty was a special school for drug users. Again, expulsion and suspension were seen by all groups as least helpful.

The students, parents, and administration were asked their advice on how best to administer information and educate students about the dangers and penalties of drug use. All groups agreed that speakers would be the best approach, with seminars and course time related to the problem the second and third best approaches. Posters, pamphlets, and brochures were not thought to be of much help for this problem.

For education aimed specifically at preventing and solving the drug problem, students again felt speakers would be the most helpful, whereas the parents and administrators favored seminars. The students felt that television would be a very worthwhile form of education. Only a few of the student respondents recommended school counselors, pamphlets, or brochures.

The last item on the survey was an open-ended request for additional suggestions for solving the drug problem. Many of the answers were very lengthy and well thought out. Some conclusions from these will be drawn in the next section. A brief sampling of these responses follows in an appendix.

Discussion

Drugs are a major problem in high schools throughout the nation. Teenagers are extremely vulnerable to the influence of drugs. The U.S. Department of Education states that students who use marijuana regularly are twice as likely as their classmates to have grade averages in the D or F range, and students who use drugs are twice as likely to drop out before graduation from high school.[7] An awareness of the problem is the first step in resolving the problem. Fortunately, the first step seems to have been taken, as the great majority of high school students agree that the problem needs to be addressed.

Established risk factors for drug and alcohol abuse include low self-esteem, poor relationship with parents, depression, lack of religious commitment, parental drug use, peer drug use, and sensation-seeking.[8] Students at Millbrook High School state that drugs become a problem in the absence of love. The students do not want parents or the school administration to get on a "soapbox" and "preach." They want parents to set limits, to show they care, and to show their love for their children.

Due to the immaturity and developmental changes taking place during adolescence, a typical teenager needs an extra demonstration of love and concern from parents. The parent needs to lead through strength, not weakness. The adolescent needs this strength to help build his or her future. One student writes ". . . Some parents don't realize that a hug and 'I love you' would do wonders where ignoring the child is often the common result." To solve the problems of the youth, one has to understand the youth. The solution comes with "thinking like teenagers" instead of "thinking like adults."

Peer pressure contributes to the drug problem. Peer pressure does not cause the drug problem, even though many students would like to blame their weakness on a convenient excuse. Putting all the drug users in a school of their own will not solve the drug problem. Expelling drug users and suspending drug users does not solve the problem. A better solution might be to make it "hip to be square" or "cool to say no." Speakers to whom the students can relate without feeling preached at might bring a better result. Counselors to whom the students can relate, whether peers or trained specialists, are more likely to have an impact than others.

Fear of negative consequences can help curtail drug use.[3] Limits must be set for the students and these limits must be enforced. Necessary security must be present to prevent the sale and use of drugs in the school restrooms. The easier it is to obtain drugs, the more drugs will be used. Adolescents use drugs because drugs are readily available, provide a quick and easy way to feel good, possibly aid in gaining peer acceptance,[9] and enable one to temporarily escape life pressures.

Parents wish to have more information on the subject of drugs, their effects, and how to recognize their use. They wish more information on the metamorphosis of adolescence. The parents express a desire for more education enabling them to better communicate with their children. They do not wish to be their children's bodyguards or their friends, but loving parents. The family is thought to be so important that it may be the most enduring factor in prevention and intervention in drug and alcohol abuse.

The school administration recognizes the problem and is eager to be involved in all programs to help resolve the problem. They express the wish that action be taken as soon as possible.

Recommendations

As a result of this survey the following recommendations are made:

1 Establish student support groups with trained peer counselors.

2 Hire a confidential school counselor specifically trained to deal with drug-related problems.

3 Ensure programs in school to enhance self esteem, life skills, and decision making.

4 Enforce a drug free environment in school and at school activities.

5 Establish parent support groups to maintain a drug free environment.

6 Secure speakers to educate students and parents on the dangers of alcohol and drugs.

7 Support parenting workshops.

Summary

To solve the problem, there must be an awareness of the problem; there must be a coordinated effort between teenagers and adults to prevent problems and resolve those that exist; and there must be negative consequences to help prevent use and to curtail the availability of drugs. Positive actions and attitudes on the part of the community, families, and the young people, with open communication, will lead us down the right path to resolution of the problem. More action needs to be taken to clarify different approaches and to assess the results of programs. ■

References

1 Editorial: adolescents and substance abuse. Pediatrics 1985;76:630-2.

2 Perry CL, Jessor R. The concept of health promotion and the prevention of adolescent drug abuse. Health Education Quarterly 1985;2:169-84.

3 Macdonald DI. Prevention of adolescent smoking and drug use. Pediatric Clinics of north America 1986;33:995-1005.

4 Kaye BW, Hubbard RL, Brownlee RF. Alcohol and drug abuse among adolescents in Wake County: results of the 1983, 1984, and 1985 surveys of 9th-12th grades, Vol 2. Raleigh: Drug Action of Wake County, 1985.

5 Researched by the staff of the reference desk at the Huffington Memorial Library, Kansas City, MO.

6 Statistics from the Wake County Public School System, Raleigh, December, 1986.

7 Bennett WJ. What works: schools without drugs. United States Department of Education, 1986.

8 Newcomb MD, Maddahian E, Bentler PM. Risk factors for drug use among adolescents: concurrent and longitudinal analysis. American J of Public Health 1986;76:525-31.

9 Beschner GM, Friedman AS. Treatment of adolescent drug abusers. The International J of the Addictions 1985;20:971-93.

Appendix: A selection of written comments from survey respondents

Student comments

"Maybe if parents would quit saying 'not my child' and face up to the fact that their child has a problem with drugs then the road to rehab is within reaching distance. Parents, some parents, don't realize that a hug and an 'I love you' would do wonders where ignoring the child is often the common result. Parents are right when they say 'don't take drugs.' But how many parents say this but don't actually enforce it?"

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"People who do drugs and/or alcohol often have problems that are very serious to them. They need love and support, not punishment. Many adults seem to forget what it's like to be a teenager. We have problems that are important to us. We need someone who will listen, not someone who wants to get on his 'soapbox'. . ."

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"The problem isn't in the schools — it's at the parties. And if you people would get smart enough you'd realize that. You aren't thinking like teenagers — you're thinking like adults."

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"There is a serious misunderstanding of the drug problem. It's not peer pressure that causes people to start taking drugs (alcohol is a drug). It is clearly a matter of personal weakness. . . What a double standard we're living when we see thousands of beer commercials a week, somebody thinks one 5-second "don't drink and drive" announcement will change things. Who are they trying to kid? . . ."

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"School counselors are of no help simply because the student who's using needs someone he can open up to who is very experienced in this field. Either a drug counselor or recovering addict."

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"Peer counseling ought to be a class open to anyone who would like to take it. We need a lot of people (kid counselors) to go to the younger schools and tell them about the abuse of drugs. They don't want to hear it from a parent or counselor, but from someone they might look up to and understand."

Parent comments

"We are still No. 1 role models and if enough of us walk a straight line, it may not be so square to be doing the right things."

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"Teens often 'get on their parents' nerves' — so what do they do? ESCAPE — go out on foot or in someone else's car and get blown away. How many parents really understand the metamorphosis from childhood to adult?? Teenagers go overboard trying to emulate the adults they love and respect so much."

"Parents need to be made aware that drugs are not a school problem; they are a problem of society. The community at large has to change its attitude regarding 'good ole boys and beer.' "

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"We are at fault for the behavior of our young people because we are too busy or don't show we care."

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"Encourage local TV stations to take alcohol advertising off TV. It encourages teenagers to try it."

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"Every effort should be made to entice young people to participate in some school related activity such as music, sports, newspaper or whatever but it would give them a feeling of belonging."

Teacher comments

"Take action now! Students are killing themselves and ruining their lives. I see kids staring off into space every day! Information is the key!"

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"Mandatory parent counseling for parents of users. Students will not take as valid info lectures by school counselors, parents, or teachers who do not have 'credentials,' i.e., personal experience with the problems of drug abuse. The problem of alcohol as a drug must be addressed — not only with the student population but with their parents."

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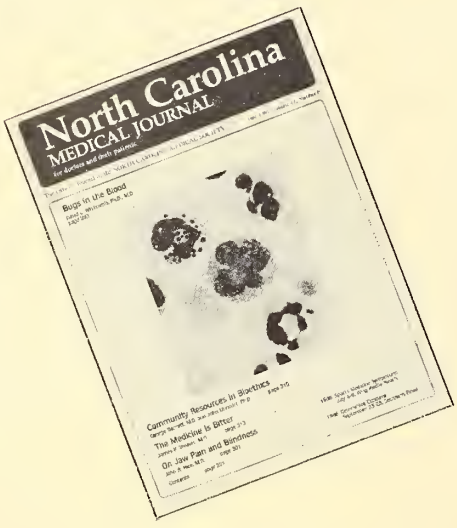
"I am a parent and a teacher and believe that parents should be more responsible for their children's actions. If a student is on drugs, parents should directly be accountable by law for their children. Parents would then do a better job disciplining in the home."

•

"The first line of defense is in the home. The time, effort and money must be centered on getting parents aware of, and realistic about, the alcohol and drug problem. Most parents are only willing to admit the problem exists on a societal level, but few REALLY BELIEVE IT IS THEIR KID. . . . We are simply ignoring the obvious truth — most drinking and some drug use begins in the seventh grade." ■

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Radiology and Surgery in the Treatment of the Complications of Acute Pancreatitis

Herbert J. Proctor, M.D., F.A.C.S., John A. Schwartz, M.D., Robert Rutledge, M.D., and Mathew A. Mauro, M.D.

Prior to the development of interventional radiology, the role of radiology in the treatment of acute pancreatitis was limited to providing images which were the basis for others to make therapeutic decisions. Historically, operative intervention by surgeons had little impact on the early care of acute pancreatitis. Ranson[1,2] was among the first to clarify the management of acute pancreatitis by developing predictors which indicated patients most likely to sustain morbidity and/or mortality (table 1). Peritoneal lavage as described by Ranson[3] was a treatment modality designed to alter morbidity and mortality. His findings were that mortality for pancreatitis was not changed, simply the time and mode of exit. Patients were living long enough to develop one of five possible complications of acute pancreatitis: pseudocyst, infected pseudocyst, pancreatic abscess, pancreatic necrosis, or infected pancreatic necrosis. Interventional radiology and/or surgery now had the potential of favorably affecting the outcome.

The necessity for surgical drainage of pus, débridement of necrotic tissue, and internal drainage of pseudocysts was unchallenged until recent advances in percutaneous catheter drainage techniques. Although the value of surgery has recently been confirmed by Warshaw,[4] the timing of surgery is less clear. This is in part due to difficulties with the definition of infected pancreatic pseudocyst vs pancreatic abscess, the role of percutaneous drainage vs operative drainage of pseudocysts, infected pseudocysts, and pancreatic abcesses, and finally the difficulty in differentiation by computed tomography (CT) between necrotic pancreas, infected necrotic pancreas, and pancreatic phlegmon.[5]

As a result of recent experience on our service (HP), we have come to visualize the progress of a patient with acute pancreatitis as depicted in figure 1 (next page), with the patient passing through the stages of diagnosis, documentation of the degree of severity using Ranson's criteria, deciding on the advisability of lavage, and choosing from among several therapeutic modalities. To validate the appropriateness of this progression sequence, a retrospective review was undertaken.

Patient Population

Group I

During the period 1976-1985, there were 410 admissions (291 patients) to the North Carolina Memorial Hospital for episodes of acute pancreatitis. Fifty-seven patients accounted for 176 admissions. Thirty-three of these patients developed a pseudocyst.

Table 1

Predictors which indicate patients most likely to sustain morbidity and mortality. Ranson.[1]

Laboratory Data at Admission
age > 55
wbc > 16000
glucose > 200 mg %
LDH > 350
SGOT > 250
Changes During Initial 48 Hours
Hct fall > 10
BUN rise > 5
Ca < 8 mg %
Base deficit > 4 mEq/l
Est. fluid sequestration > 6000 ml
pO_2 < 60 mmHg

From the Departments of Surgery and Radiology, University of North Carolina School of Medicine, Chapel Hill. Correspondence/reprints: H.J. Proctor, M.D., Department of Surgery, University of North Carolina School of Medicine, Burnett-Womack Clinical Sciences Building 229H, Chapel Hill 27514. This paper was presented at the 20th Annual Meeting, Pancreas Club, May 19, 1986.

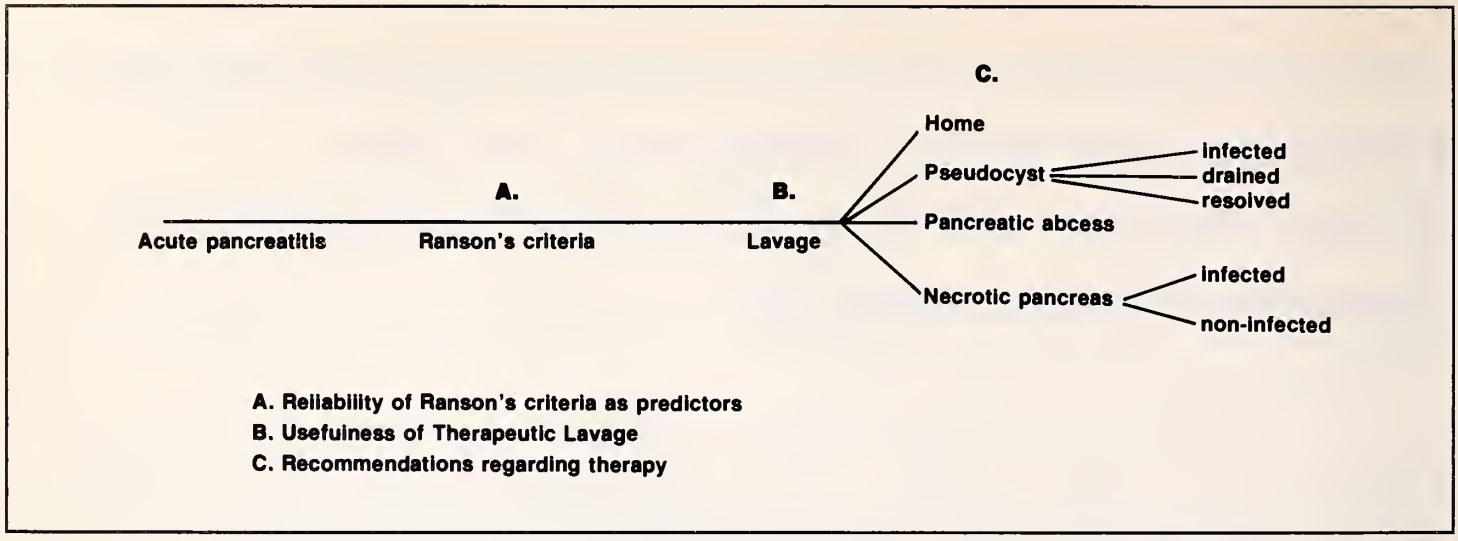


Figure 1. Flow chart illustrating pertinent decision points in diagnosis and treatment of acute pancreatitis.

Group II

During this same period, 123 patients were admitted with the diagnosis of pancreatic pseudocyst, having undergone their initial care for acute pancreatitis elsewhere. With these patients and the 33 patients from Group I who developed a pseudocyst, the total available for outcome study was 156 patients with pancreatic pseudocyst.

Data relating to Group I are expressed in terms of numbers of admissions; data relating to Group II are expressed in terms of numbers of patients. The numbers of admissions, patients and their grouping are summarized in figure 2.

Results

Group I

There were 182 male and 109 female patients, ranging in age from four to 102 years (mean 43.2 years). Multiple admissions (2-10) for pancreatitis were noted in 57 patients for a total of 176 admissions. The remaining 234 patients had isolated episodes of acute pancreatitis. The presumed etiology of pancreatitis and characteristics of the patient population are shown in table 2. Overall, the mean age for male patients (42.8 years) and female patients (44.1 years)

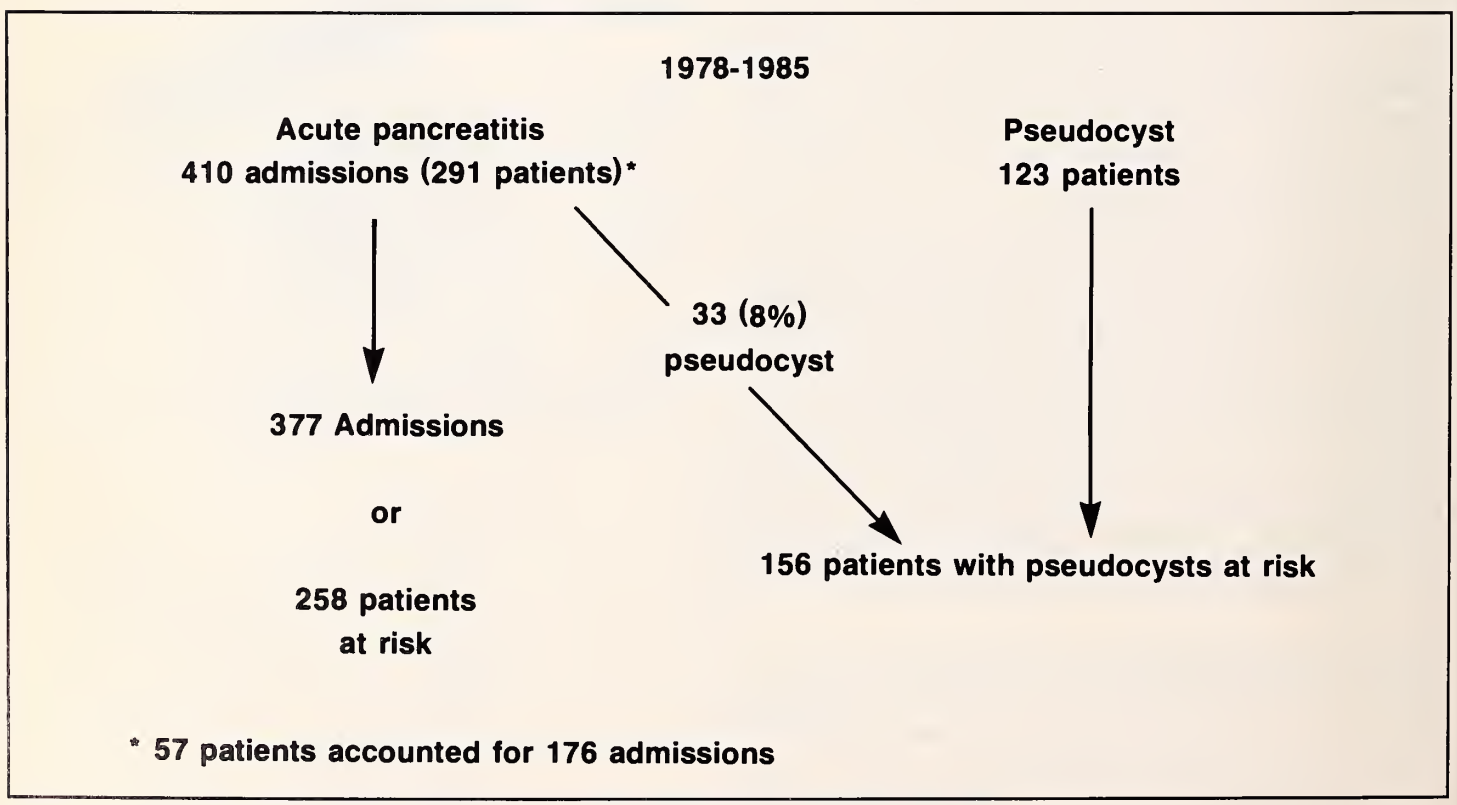


Figure 2. Schematic breakdown of patients and their allocation to treatment groups.

Table 2

Sex and etiology of Group I patients.

	Male 272 (67%)		*Female 135 (33%)*
Alcohol	80.3%	p<.001	40.5%
Biliary	12.6%	p<.001	30.6%
Other	7.1%	p<.001	28.9%

presenting with pancreatitis was not different. However, patients with alcohol-related diseases were more likely to be male (p<.001) and younger (mean age 40.5 years) than those with disease associated with gallstones, who tended to be famale and somewhat older (p<.0005, mean age 54.4 years).

The admitting serum amylase concentration was greater when biliary tract disease was the etiology of pancreatitis (1874 mg/dl ± 1856) as compared to alcoholic pancreatitis (580 mg/dl ± 650), p<.0005. Other than suggesting a biliary versus alcoholic etiology of pancreatitis, serum amylase levels were of no value in predicting treatment outcome or course of disease.

The prognostic value of Ranson's criteria was confirmed by our data (figure 3). The mortality rates for episodes of acute pancreatitis were significantly increased (p<.001) with progressive disease severity as determined by the number of positive Ranson's signs.

The contention[3] that peritoneal lavage was indicated to deter early mortality in acute pancreatitis until the later stages of pancreatic necrosis, abscess, or pseudocyst development was not supported by our observations. Although no patient in this series was lavaged, all 31 mortalities occurred after the development of complications (phase C, figure 1).

All patients (9/9) in whom CT was incorrectly interpreted as showing a pancreatic phlegmon died and were found to have infected, necrotic pancreases at autopsy. In comparison, there was a 42% (12.42) mortality for operative débridement of necrotic infected pancreas correctly diagnosed by CT, and 0% mortality in ten patients explored for CT evidence of necrotic pancreas who were found at laparotomy to have only inflammation. Ten additional non-operative patients died, after resolution of pancreatic inflammation, of pulmonary embolus (2), pneumonia (2), gastrointestinal bleeding (4), and myocardial infarction (2).

Group II

The average age was 44 years with a range of four to 69 years. There were 120 male and 36 female patients. In the majority of patients the diagnosis was made using computerized axial tomography or ultrasound, with ultrasound being slightly more common. The average length of symptoms prior to treatment was six months. The cause of pseudocyst, as in the pancreatitis patients in Group I, was overwhelmingly due to alcohol abuse (81%).

The mode of treatment and results of therapy for the patients with pseudocyst are listed in table 3. It should be noted that if a pseudocyst did not resolve under observation, some form of interventional therapy was recommended and the patient outcome reported under that therapeutic group. Thus the 5% morbidity and 0% mortality reported for observation represent a selected population of patients and gives a falsely optimistic picture.

Table 3

Mortality and morbidity of various therapies for 156 pancreatic pseudocysts.

	156 Pseudocysts			
	No.	*% Total*	*% Mortality*	*% Morbidity*
Observed	23	15	0	0
Surgical external drainage	16	10	5	65
Percutaneous external drainage	15	9	0	15
Internal drainage	102	65	0	31

The most common complications of external drainage of an uninfected pseudocyst were persistent fistula (31%) and infection (25%). Thus internal drainage as performed in the majority of patients (table 3) seems preferable inasmuch as the 31% morbidity incurred was of short duration compared to the long-term problems of managing a persistent (greater than three months) pancreatic fistula which required additional surgery to correct.

The type of operative procedure in each patient involved a certain amount of variability depending upon the surgeon and the year in which the patient was treated. Selection of the operative procedure was made on the following basis: cystogastrostomy was selected for patients with cysts located immediately beneath the stomach; cystojejunostomy was selected for patients with cysts in the head of the pancreas opposing the duodenal sweep; pancreatectomy was selected for patients with an obstructed pancreatic duct, extensive pancreatitis or multiple cysts in the tail of the pancreas; observation was selected for patients with small cysts or a short duration of symptoms; marsupialization or

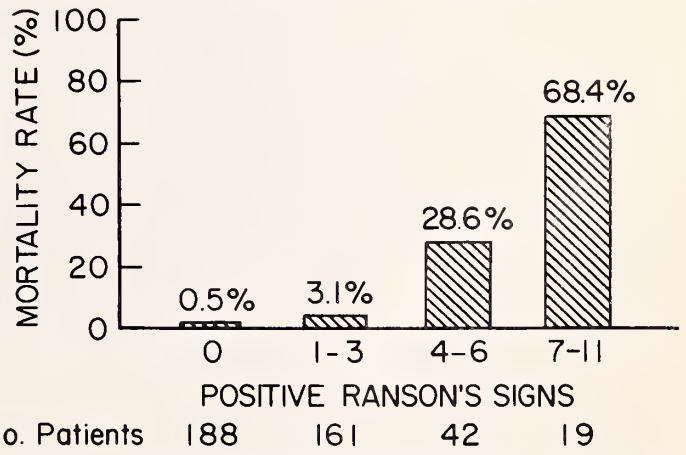


Figure 3. Progressively greater mortality is noted with increasing number of positive Ranson's criteria.

cysts or a short duration of symptoms; marsupialization or external operative drainage were selected for patients who were acutely ill and had immature cyst walls.

The incidence of complications in patients undergoing surgical external drainage was 65%, much higher than in the other groups. Thus the combined (operative and percutaneous) complication and mortality rate was much greater for external drainage than for internal drainage.

Patients' results were classified as Good, Fair, or Poor. Patients were classified as having "good" results if they had returned to work, had no further pain or only mild pain not requiring narcotics, and had no recurrence of their pseudocyst. The result was classified as "fair" if the patient required continued use of pain medication with control of pain and had no further hospitalization or operation. A "poor" result was defined as requiring re-operation or re-hospitalization or involving continued severe pain requiring narcotics. Patients undergoing different kinds of internal drainage, including cystogastrostomy, cystojejunostomy, pancreatectomy, and cystoduodenostomy, had very similar results: 59% good, 25% fair, and 16% poor. Patients undergoing external drainage had poorer long-term results than patients undergoing other types of therapy. Only 20% of patients had good long-term results after external operative drainage.

There were 18 peripancreatic collections of pus. In this study, we did not distinguish between an infected pancreatic pseudocyst and a pancreatic abscess (see discussion). Six collections were drained surgically; 12 were drained percutaneously. All resolved without mortality or significant morbidity related to the manner of drainage.

Discussion

The exocrine pancreas secretes into the gut on demand some 20 proteins necessary for digestion. Autodigestion is prevented by a variety of safeguards. Proteins, lipase, co-lipase, phospholipase A, and proteolytic agents probably account for the edema, tissue destruction, fat necrosis, and other metabolic disorders and eventual mortality in the severely ill patients. In our study, the clinical presentation of abdominal pain, nausea and vomiting, and an elevated serum and/or a urine amylase established the diagnosis, although some of the most severe cases had normal serum amylases, presumably on the basis of near total pancreatic destruction. Beyond that, the concentration of serum amylase had little prognostic significance other than to indicate, if elevated, continued pancreatic inflammation.

Our study confirmed the value of Ranson's criteria. We agree that special attention is needed for patients with more than three criteria positive, in view of the 28.6% mortality noted in this group. We would recommend a computed tomographic study in all such patients. Computed tomography is currently the radiologic examination of choice in patients suspected of having complicated acute pancreatitis. CT is reliable in identifying and locating fluid collections and complicated inflammatory masses associated with acute pancreatitis. CT evaluates the entire abdomen, including the deep pelvic recesses, giving an accurate appraisal of the full extent of the inflammatory process.

The concept of introducing a dialysis catheter in the infraumbilical position to dilute out noxious substances seems attractive in theory but has been challenged by a number of recent studies.[6-8] Mayer, et al[8] have recently completed a multicenter study in which 46 patients were assigned to the control group and 45 to the lavage group. There were 13 deaths (28%) and 16 patients with major complications (35%) in the control group compared with 12 deaths (27%) and 17 patients with major complications (38%) in the lavage group. Lavage did not appear to modify the length of survival, or the incidence of peripancreatic collections (pseudocysts and abscesses). Mayer did find the use of lavage to be helpful in establishing the diagnosis of acute fulminant pancreatitis, correctly identifying 90% of the patients, most of whom died or underwent pancreatic necrosis.[7]

Balldin et al in a study aimed primarily at determining the usefulness of aprotinin in the lavage fluid incidentally also found no improvement in results with lavage without aprotinin.[9] Our data do not support the use of lavage since all of the deaths among our patients occurred as a result of the late sequelae of pancreatitis, not in the early phases where lavage has reportedly had its greatest efficacy. Whether the frequency of complications (necrosis, abscess, pseudocysts) would have been lowered by lavage we cannot say; however, our incidence of these appears to be consistent with the findings of others.[4,10]

This leads to two questions: what is the best way to follow patients who have acute pancreatitis; and when complications develop, what is appropriate management? Fluid can be identified quite reliably on CT scan by virtue of location or density. Collections appropriate for percutaneous drainage include pseudocysts, infected pseudocysts, and pancreatic abscesses. Recent reports suggest at least 80% of patients with pseudocysts and 70% of patients with pancreatic abscesses can be cured with non-operative percutaneous drainage.[11-13] Patients with pancreatic abscesses not cured by catheter drainage are often temporarily improved, allowing more elective definitive treatment.

Our data indicate that liquid pus, regardless of etiology (infected pseudocyst vs pancreatic abscess), is best handled by external drainage. In view of the success and low morbidity, percutaneous catheter drainage is recommended. It is of secondary importance whether the pus originates in a secondarily infected pseudocyst or derives from liquefaction of infected pancreas. A preliminary needle aspiration and culture is useful in establishing the diagnosis, but may not always be accurate. Surgical drainage should be reserved for (a) a percutaneous route involving other organs or the pleural space; (b) pus too thick to drain using a percutaneously placed catheter; (c) associated conditions such as

ascitic fluid with high amylase content which may be evacuated surgically in conjunction with drainage; and (d) presence of necrotic tissue, or at least a situation in which it cannot be reliably ruled out.

A pancreatic phlegmon represents diffuse swelling of the pancreas secondary to edema and inflammatory cell infiltration, and it is not of drainable consistency. Foci of necrosis may be present as well. On CT, phlegmons most commonly appear as irregular masses with attenuation values greater than water. However, appearances are variable and there are no pathognomonic morphologic or density appearances. Peripancreatic extension is not uncommon. Devitalized glandular tissue and fluid are the main components of a necrotic gland. The early CT appearances of pancreatic necrosis are often indistinguishable from a phlegmon within the pancreatic bed. With time the overall internal density of the necrotic gland decreases. The entire gland is typically affected, being diffusely enlarged but maintaining a pancreatoform configuration. A thick soft-tissue rim may be seen surrounding the lower density necrotic gland.

Percutaneous needle aspiration is the only quick and reliable way of diagnosing a superinfected necrotic gland. Percutaneous aspiration should only be performed when a safe access route can be identified. Such a route can often be found using CT guidance. The absence of culture-positive results does not rule out infection, and careful review of the overall clinical course is necessary. While fluid and pus have been successfully drained percutaneously, the residual semisolid material within a necrotic gland often requires surgical evacuation. In such cases, percutaneous drainage may be of benefit as a temporizing measure in a critically ill patient allowing later surgical débridement in a more stable setting.

The surgical exposure we favor is through a transverse upper abdominal incision as described by Bolooki, et al [14] and Bradley, et al.[15,16] The lesser sac is entered through the greater omentum and the pancreas is exposed (figure 4). The necrotic pancreas may be either black in the case of hemorrhagic pancreatitis or putty gray if significant hemorrhage has not occurred. In either event, the necrotic material is gently debrided using finger fracture with sharp dissection used only sparingly. The adjacent mesenteric and splenic vessels are extremely friable as is the remaining inflamed but viable pancreas, and care must be taken not to create hemorrhage. One of the operative deaths in this series died with massive uncontrollable bleeding and secondary coagulopathy. A cholecystostomy tube is placed to divert bile from the duodenum and to decompress the biliary system in the event edema or resulting fibrosis causes narrowing of the intrapancreatic portion of the common duct.

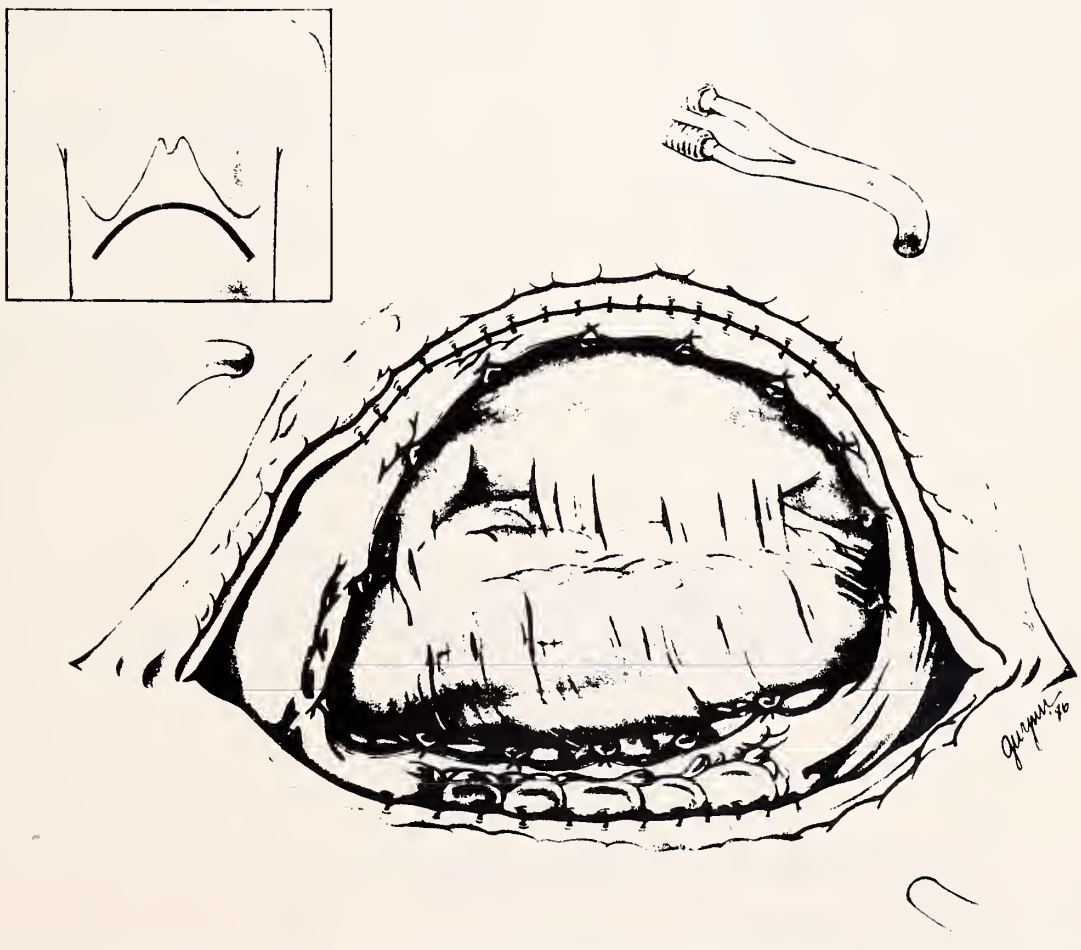


Figure 4. Location of abdominal incision and technique of exposure employed by the authors for "marsupialization" of the lesser sac.

A gastrostomy tube is placed since many of these patients require long-term gastric suction. A feeding jejunostomy is placed to allow postoperative alimentation. Because of the risk of intermittent bacteremia in these patients it is desirable to reduce the number of vascular cannulas. Sump drains are placed in the pancreatic bed to remove any fluid collection and for purposes of irrigation. They are usually removed in 48 hours to avoid erosion into adjacent structures.

To allow continued access in the postoperative period for daily débridement and irrigation of the pancreatic bed, the abdomen is left open. To prevent evisceration, the greater curvature of the stomach is sutured to the upper edge of the incision and the transverse colon is sutured to the lower edge. Portions of the omentum are used to obliterate the angles. If the preoperative diagnosis of necrotic pancreas is in error and only phlegmon is encountered, as was the case in ten of our patients, the same operation is performed except the abdomen is closed and no débridement is performed. Three of the 10 patients were dramatically improved following evacuation of amylase-rich brown cloudy fluid from the retrogastric space while the remaining seven gradually improved. In these it was less apparent that the operation was particularly beneficial; on the other hand, it was accomplished with no mortality.

In view of the 0% mortality and low morbidity when operating in error on pancreatic phlegmon, versus the disastrous outcome of non-operative therapy for necrotic and/or infected pancreas, we feel strongly that in situations where the diagnosis is in doubt, exploration should be strongly considered. All patients should receive at least one CT scan upon admission to the hospital, with 7-10 day follow-up as appropriate. High risk patients with more than four Ranson criteria positive, or patients whose condition is worsening, need frequent follow-up with scan so that prompt percutaneous or surgical intervention may be instituted. ■

References

1 Ranson JHC, Rifkind KM, Roses DF, et al. Objective early identification of severe acute pancreatitis. Am J Gastroenterology 1974;61:443-51.

2 Ranson JH, Rifkind KM, Turner JW. Prognostic signs and non-operative peritoneal lavage in acute pancreatitis. Surg Gynecol Obstet 1976;143:209-19.

3 Ranson JH, Spencer FC. The role of peritoneal lavage in severe acute pancreatitis. Ann Surg 1978;187:565-75.

4 Warshaw AL, Gongliang J. Improved survival in 45 patients with pancreatic abscess. Ann Surg 1985;202:408-15.

5 White ME, Wittenberg J, Mueller PR, et al. Pancreatic necrosis: CT manifestations. Radiology 1986;158:343-6.

6 Lasson A, Balldin G, Genell S, Ohlsson K. Peritoneal lavage in severe acute pancreatitis. Acta Chir Scand 1984;150:479-84.

7 Mayer AD, McMahon NJ. The diagnostic and prognostic value of peritoneal lavage in patients with acute pancreatitis. Surg Cynecol Obstet 1985;160:507-12.

8 Mayer AD, McMahon MJ, Corfield AP, et al. Controlled clinical trial of peritoneal lavage for the treatment of severe acute pancreatitis. New Eng J of Med 1985;312:399-404.

9 Balldin G, Borgstrom A, Genell S, Ohlsson K. The effect of peritoneal lavage and aprotinin in the treatment of severe acute pancreatitis. Res Exp Med 1983;183:203-13.

10 Pemberton JH, Nagorney DM, Dozois RR. Pancreatic abscess, in Go VLW, Gardner TD, Brooks FP, et al, eds. The exocrine pancreas: biology, pathobiology, and diseases. New York: Raven Press, 1986;513-25.

11 van Sonnenberg E, Wittich GR, Casola G, et al. Complicated pancreatic inflammatory disease: diagnostic and therapeutic role of interventional radiology. Radiology 1985;155:335-40.

12 Nunez D, Jr., Yrizarry JM, Russell E, et al. Transgastric drainage of pancreatic fluid collections. Am J Rad 1985;145:815-8.

13 Kackron KB, Martin EC, Fankuchen EI, et al. Percutaneous drainage of pancreatic pseudocysts and abscesses. Radiology 1982;142:619-24.

14 Bolooki H, Jaffe B, Gleidman ML. Pancreatic abscesses and lesser omental sac collections. Surg Gynecol Obstet 1968:126:1301-8.

15 Davidson ED, Bradley EL, III. "Marsupialization" in the treatment of pancreatic abscess. Surgery 1981;89:252-6.

16 Bradley EL, III, Fulenwider JH. Open treatment of pancreatic abscess. Surg Gynecol Obstet 1984;159:509-13.

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Clinical Decision Making in a Cost Conscious Era

Cost Effective Evaluation of Clinical Decision Making

Andrew G. Wallace, M.D.

In the past the majority of clinical decisions were made by one doctor. The information underlying a decision was obtained from a few sources, the most expensive being examination by conventional x-ray. Today the doctor must choose among a number of expensive methods: routine x-rays, cineradiology, isotopic visualization, computer assisted tomographic scans and magnetic resonance imaging. There are multiple clinical approaches to a given diagnosis. At what point will new information be definitive enough to alter the clinical decision pattern that has been developed from the history, physical examination, chemical laboratory screen, chest plate and electrocardiogram, and be, as a consequence, cost effective? To be worth the expense, each additional test must supply enough new information to cause the doctor to vary from the course originally selected on the basis of tests previously performed. In this more complex environment three areas need to be examined.

1. How do we make rational clinical decisions and can we do it better?
2. How do we *maximize* the probability of favorable clinical outcomes for individual patients, yet at the lowest possible cost?
3. If we accept the premise that we are approaching limits on aggregate expenditure, then it is clear that the money spent for one purpose will not be available for another. At that point some issues will certainly become matters of public policy. It will be important to our patients that we contribute to those policies; the question is, how?

Clinical Decision Making[1-3]

In 1978 Herb Simon was awarded the Nobel Prize in economics for pioneering research on how corporations make decisions. This work challenged the theory of organizational behavior that was developed in the first half of this century — a theory which held that corporate decisions were made by a single omnipotent entrepreneur. He substituted a theory of multiple decision makers — a group — where choices were limited by uncertainty, biased by personal ties between decision makers, and influenced by ethical concerns. He portrayed corporate action as a compromise between points of view — designed to produce a satisfactory result, not necessarily the best — and focused on short-term or at best intermediate gain, rather than on distant goals.

The intriguing aspect of this story is that Simon's Nobel Prize was awarded in economics while his research was in cognitive psychology. More specifically, it was on how the central nervous system functions as an information processor. His papers provided the experimental basis for current understanding of pattern recognition. Well documented in his work are the remarkable differences between people's capacities for short- and long-term memory, and the observation that intellectual processes such as decision making operate on data stored in short-term memory — at least for the interval of time that decisions are made. It is to Simon and his colleagues that we owe much of the theory that underpins recent research on artificial intelligence.

We make decisions with the nervous system, and I submit that how the nervous system works, and what its limitations are, are relevant. Simon's work and ample subsequent evidence suggest that our brains are not built to hold simultaneously in short-term memory more than five to seven discrete facts for processing. As a consequence the system is not designed to sort through a large prior experience — to match one's current patient with those of similar description — and to compare benefits and risks resulting from one or more modes of therapy.

With many patients we probably collect more data than we can effectively use in decision making, and our capacity to recall a significant number of patients who are truly like the current patient is limited. At least in part these limitations of the nervous system have attracted many to computers, as an extension of our memory, to help identify prognostically significant variables, to perform pattern recognition,

From the Office of the Chief Executive Officer, Duke University Hospital, Durham 27710.

and to recall and codify the outcomes of one therapy versus another.

Sir William Osler, in his valedictory address to the University of Minnesota's class of 1892, wrote, "Start with the conviction that absolute truth is hard to reach about our fellow creatures — healthy or not — that slips in observation are inevitable, and that errors of judgement must occur in the practice of an art which consists largely of balancing probabilities. . . ."

We can trace at least to Osler that physicians deal most of the time with observations and test results that are prone to error, and with uncertainty about prognosis. As a consequence, we have always used probabilities, either consciously or unconsciously.

When the choice was between one diagnostic test and none, or between the only treatment and none, probabilities sorted themselves into reasonably distinct categories and could be handled without much precision or complex algorithms.

But for us the situation is more complicated. For one thing, we simply have many more alternatives from which to choose. For another, many diagnostic tests are not definitive and their information contents overlap. In practice, the utility of most tests is not so much a question of their predictive accuracy, viewed in isolation, but rather the extent to which a given result changes the likelihood of a disease from its pretest probability. Many of these comments are equally germane to therapy; there are risks that must be considered and sometimes new problems are introduced by therapy.

It seems to me that the ultimate compliment to the medical profession is that complexity and uncertainty are dealt with and that most problems are solved appropriately. However, there is a basis for thinking we can do better and perhaps at lower cost.

Decision Analysis[4-11]

Shortly after World War II, the need to make complex decisions and the availability of methods to aid the process gave birth to a new discipline called *decision analysis*. Initially used in such seemingly disparate fields as military strategic planning and game theory, this new discipline represented a marriage of cognitive psychology, data processing, statistics and artificial intelligence. Business embraced this new approach, and nearly every respected MBA program in our country now provides a heavy dose of decision analysis in its curriculum.

In 1959 a paper was published in *Science*, "Reasoning Foundations for Medical Diagnosis," the first I think to focus on the use of symbolic logic, probabilities and utility theory to understand medical decisions.

Just a year later, Homer Warner presented an address to the American Heart Association titled "A Mathematical Approach to Medical Diagnosis: Application to Congenital Heart Disease." Warner was the one to introduce cardiology to decision sciences. His most recently published paper is titled, "Physician Oriented Applications of Artificial Intelligence."

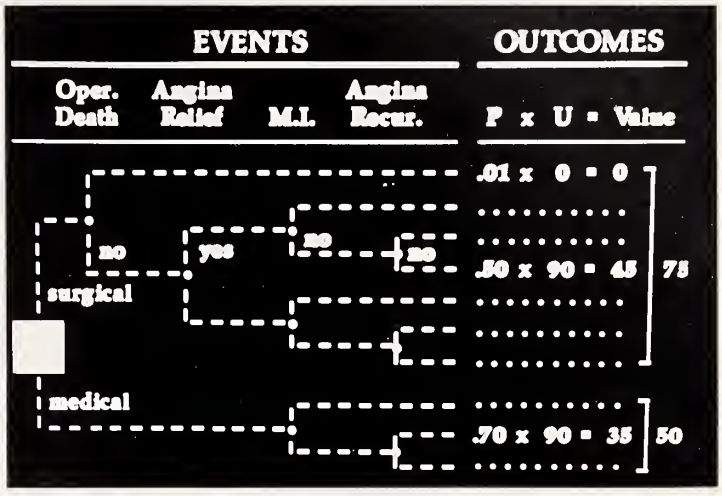


Figure 1

Figure 1 is a decision tree adapted from one published in the *Annals of Internal Medicine* a few years ago and dealing with choice about treating coronary disease. In principle, decision analysis is nothing more than an effort to formalize the process of making choices; and it is most useful when choices are complex and surrounded by uncertainty. Decision analysis asks its user (1) to be *explicit* in segmenting a complex problem into component events and possible actions, (2) to be *inclusive* by considering all potential outcomes, good and bad, (3) to be *quantitative* in the sense that probabilities should be specified for all important outcomes, and (4) to be *qualitative* by expressing on some scale the utility *or preference* for each outcome.

For each branch of a tree there is a solution or expected value, which is a product of the probability of that outcome and the utility associated with that outcome. Collectively, the solutions of a decision tree may be *prescriptive*, suggesting a choice that maximizes the probability of the desired outcome.

It is *not* my purpose to try to persuade you that decision analysis has reached a level of maturity that would make it practical in the everyday clinical setting: it has *not*. But this should not detract from the intrinsic value of subjecting decision making to critical analysis, or from our continuing responsibility to capture experience in a form suitable for *decision analysis*.

Consider for a moment the resources (human and fiscal) devoted over the last decade or two to outcome-oriented clinical cardiovascular research. For example: studies to determine the predictive accuracy of non-invasive tests; the appropriate timing of surgical intervention in congenital heart disease; the benefits and risks of one prosthetic heart valve versus another; the choice between medical and surgical therapy for subgroups of patients with coronary disease; the question of whether to pace or not in patients with repeated syncope; and the related questions of what constitutes an

Continued on page 221



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*Caution: If perforation of the eardrum exists, specify Cortisporin Otic *Suspension* (this drug should be used with care in cases of perforated eardrum).

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adequate diagnostic evaluation, and what to do in the absence of diagnostic certainty.

The most important thing to remember is the complexity of decisions we make and the degree of uncertainty that prevails about an outcome when a series of complex decisions are linked together. We are fortunate that cardiology has made a commitment to quantify the accuracy of observations and to document the outcome of therapeutic decisions. Recently published studies dealing with coronary bypass surgery and with the evaluation of patients with syncope graphically illustrate the potential of decision analysis: to integrate what we have learned, to deal objectively with uncertainty, to estimate the utility of particular choices, and to consider the variability of patients' preferences when important outcomes are at stake.

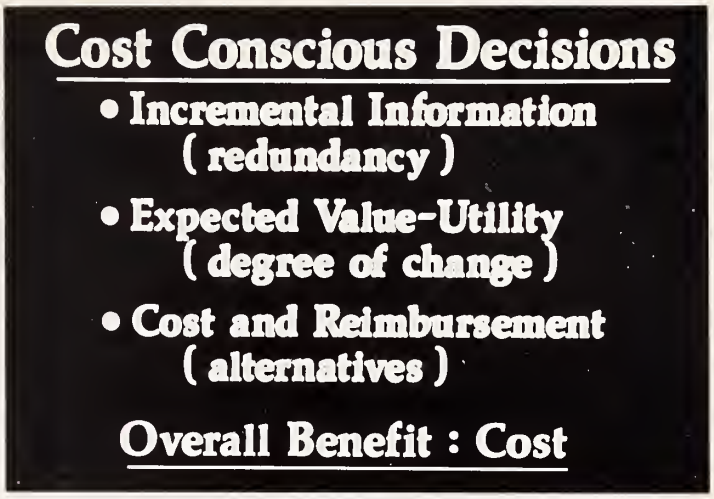


Figure 2

Cost[12]

We are also concerned with the issue of cost. A few years ago I made a transition: relinquishing the post as Chief of Cardiology at Duke to assume responsibilities as chief executive officer of the hospital. As a cardiologist I took great pride in a compulsive evaluation of my patients, and I tried to instill that philosophy in our trainees. The patient with angina typically got a treadmill, nuclear scans and catheterization. The patient with a history of arrhythmia got an exercise test, Holter monitor, an electrophysiologic study and sometimes more. It was satisfying to dictate a discharge summary with "all the data," and in a vague way I felt that this approach was good for the hospital and for the department in financial terms.

But the approach I espoused was being challenged. For example, results of treadmill testing and nuclear scans added little prognostic information for the patient with typical angina who would be catheterized anyway. Conversely, the angiogram seldom changed therapeutic strategies in patients with atypical pain, good exercise tolerance and negative scans. Electrophysiologists clarified the cause of syncope in only a third or fewer of the patients with non-diagnostic ECGs and ambulatory recordings.

With the introduction of fixed reimbursement by Medicaid and by Medicare, we all have had to deal with major institutional consequences of work-ups where there is a consistent pattern of cost in excess of prospectively set reimbursement. How do we decide if the expected value of a test justifies its cost?

Even without considering cost, I think we can agree that (as suggested by figure 2) for any diagnostic test to be of value it should satisfy at least two criteria: the test should convey incremental information that changes the pretest probabilty of disease or clarifies its severity; and the degree of change in probability should be sufficient to affect some subsequent decision.

It is important to recall here that decision analysis is more than just statistics; it embraces another set of considerations which in the jargon of the discipline is called utility theory. It is here that all possible outcomes good and bad are considered, and their relative values are integrated to answer the question: what is the expected value of the test or treatment? When overall benefit is quantified it can be compared to cost — or to reimbursement — and ratios of benefit to cost for various alternatives can be compared.

Let me paraphrase the question I posed earlier: can we improve on the intuitive process of making decisions to maximize the probability of preferred outcomes while at the same time reducing cost? I believe the answer is yes. I am *not* an advocate of replacing with computers the remarkable capacity of experienced physicians to make judgments. But the complexity of some decisions, the availability of objective data from a host of relevant experiences, the ability to update these experiences over time and to apply the techniques of decision science, offer real promise of augmenting what in the end will always be clinical judgment.

In addition, the potential to reduce cost is real because nearly every line of evidence — intuitive and analytic — suggests that significant dollars are being spent collecting data that don't really help make therapeutic decisions, and for some patients very large amounts of money are spent on therapy that doesn't really alter the outcome of end stage disease.

Cost Effective Evaluation[13, 14]

To this point, I have focused on how physicians make decisions regarding individual patients, optimizing outcomes and attempting where possible to eliminate unnecessary tests in the interest of reducing cost. The definition of cost effectiveness (Figure 3, next page) introduces something new: *a given level of resources* implies *"a limit,"* and *aggregate health benefit* implies that decisions on how to use those resources will be guided by what is in the best interest of a *group* or population.

The national debt, predicted bankruptcy of the Medicare Trust Fund, and the speed with which corporate groups are opting for pre-paid health maintenance organizations are

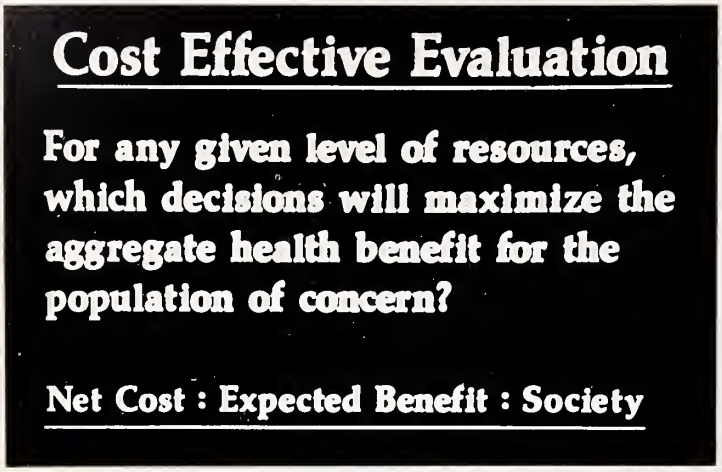


Figure 3

ample evidence that in the minds of many, resources available to spend on health are approaching a limit. If and when limits are reached, questions about how these dollars will be spent will become a matter of public policy.

The policy makers are already turning to analysts and to decision science for advice. I serve on the board of the Center for Health Policy at Duke, and new requests for analyses appear monthly, to assess this technology or that, the artificial heart, TPA, screening for glaucoma, cancer control, mental health, to name just a few.

The bottom line of these requests is cost effectiveness — the ratio of total net cost to expected benefit for a population: dollars spent for each month or year of quality adjusted increase in life expectancy. Suppose for example that the American Heart Association had a billion dollars and only a billion, with which to fund programs each year. Further, suppose that the choices offered for funding were an artificial heart program, a detection and treatment program for hypertension, and an anti-smoking program. Suppose further that with a billion dollars to spend every year, one of these programs would increase average life expectancy by one week, another by one year and another by two years for every American who reached his or her 25th birthday. Which would you vote for? Which is in the best interest of today's healthy population and of future generations?

These kinds of questions are being asked in the context of public policy and with the threat of limits on aggregate expenditure. What should be our position as individual physicians and as members of the AHA?

Cardiology has an enormous opportunity and responsibility to help answer these questions. How do we do it?

We can start by accepting even more broadly than we already have that the evaluation and treatment of every patient is a clinical experiment; that it is important to document baseline characteristics, the results of diagnostic tests, and the outcome of treatment, good or bad.

We can participate more fully and more willingly in clinical trials and registries that address important clinical problems.

We can encourage our students to become informed about decision analysis as a strategy for augmenting their own clinical judgment as well as an opportunity to shape important policies that seem certain to influence their practice.

Finally, we have a choice in how we respond to the cost conscious era of clinical decision making. We can view it as a threat or even as an onerous breach of our social contract with patients, or we can use it as a stimulus to improve our teaching, to cultivate clinical judgment, to avoid unnecessary testing, to counter defensive medicine and to re-establish public trust that what we do is right and prudent. If we save money in the process, that will be a dividend, but even if we don't we will be positioned to clarify better than we can now the consequences and trade-offs of policy that limits health care expenditures. ■

References

1 Eddy DM. Variations in physician practice: the role of uncertainty. Health Affairs, Summer 1984:74-89.
2 Eddy DM. Successes and challenges of medical decision making. Heath Affairs 1986;5:108-115.
3 Simon HA. Rational decision-making in business organizations. Chapter in "Les prix Nobel en 1978." Stockholm: Almqvist and Wiksell International, 1979.
4 Polister P. Decision analysis and clinical judgment, a re-evaluation. Medical Decision Making 1981;1:361-89.
5 Metz CE. Basic principles of ROC analysis. Seminars in Nuc Med 1978;8:283-98.
6 Pauker SG. Coronary artery surgery: the use of decision analysis. Annals of Internal Medicine 1976;85:8-18.
7 Forrester JS, et al. A roundtable discussion: how to assess the risk of coronary artery disease. Practical Cardiology 1982;8:39-71.
8 Chase BA and Pauker SG. Clinical decision making rounds at the New England Medical Center: recurrent endocarditis in a patient with a permanent transvenous pacemaker. Medical Decision Making 1982;2:224-44.
9 Beck Jr and Pauker SG. Clinical decision making rounds at the New England Medical Center: anticoagulation and atrial fibrillation in the bradycardia-tachycardia syndrome. Medical Decision Making 1981;1:284-301.
10 Kwoh CK, Beck JR, and Pauker SG. Clinical decision making rounds at the New England Medical Center: repeated syncope with negative diagnostic evaluation, to pace or not to pace? Medical Decision Making 1984;4:351-77.
11 Lee K, et al. Predicting outcome in coronary disease: statistical models versus expert clinicians. Amer J Med 1986;80:553-60.
12 Eddy DM. How to get more for less: an introduction to health technology assessment and confidence profiles (manuscript in preparation).
13 Weinstein MC, and Stason WB. Foundations of cost-effectiveness analysis for health and medical practices. New Eng J Med 1977;296:716-21.
14 Eddy DM, Sanders LE, and Eddy JF. The value of screening for glaucoma with tonometry. Survey of Ophthalmology 1983;23:194-205.

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Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of triamterene and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Angiotensin-converting enzyme (ACE) inhibitors can elevate serum potassium; use with caution with 'Dyazide'. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function. Thiazides may add to or potentiate the action of other antihypertensive drugs. Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

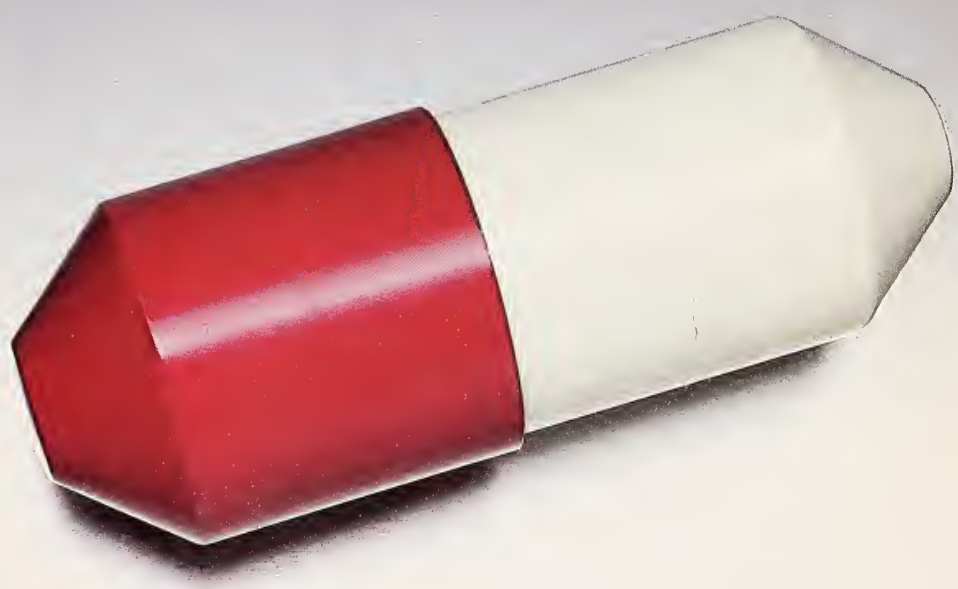
Supplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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SYNCHRONIZED SULFONYLUREA THERAPY



Please see brief summary of Glucotrol® (glipizide) prescribing information on next page.

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Reference:
1. Sachs R, Frank M, Fishman SK: Overview of clinical experience with glipizide. In *Glipizide: A Worldwide Review*. Princeton, NJ, Excerpta Medica, 1984, pp 163-172.

GLUCOTROL® (glipizide) Tablets

Brief Summary of Prescribing Information

INDICATIONS AND USAGE: GLUCOTROL is indicated as an adjunct to diet for the control of hyperglycemia in patients with non-insulin-dependent diabetes mellitus (NIDDM, type II) after an adequate trial of dietary therapy has proved unsatisfactory.

CONTRAINDICATIONS: GLUCOTROL is contraindicated in patients with known hypersensitivity to the drug or with diabetic ketoacidosis, with or without coma, which should be treated with insulin.

SPECIAL WARNING ON INCREASED RISK OF CARDIOVASCULAR MORTALITY: The administration of oral hypoglycemic drugs has been reported to be associated with increased cardiovascular mortality as compared to treatment with diet alone or diet plus insulin. This warning is based on the study conducted by the University Group Diabetes Program (UGDP), a long-term prospective clinical trial designed to evaluate the effectiveness of glucose-lowering drugs in preventing or delaying vascular complications in patients with non-insulin-dependent diabetes. The study involved 823 patients who were randomly assigned to one of four treatment groups (*Diabetes*, 19, supp. 2:747-830, 1970).

UGDP reported that patients treated for 5 to 8 years with diet plus a fixed dose of tolbutamide (1.5 grams per day) had a rate of cardiovascular mortality approximately 2-1/2 times that of patients treated with diet alone. A significant increase in total mortality was not observed, but the use of tolbutamide was discontinued based on the increase in cardiovascular mortality, thus limiting the opportunity for the study to show an increase in overall mortality. Despite controversy regarding the interpretation of these results, the findings of the UGDP study provide an adequate basis for this warning. The patient should be informed of the potential risks and advantages of GLUCOTROL and of alternative modes of therapy.

Although only one drug in the sulfonylurea class (tolbutamide) was included in this study, it is prudent from a safety standpoint to consider that this warning may also apply to other oral hypoglycemic drugs in this class, in view of their close similarities in mode of action and chemical structure.

PRECAUTIONS: Renal and Hepatic Disease: The metabolism and excretion of GLUCOTROL may be slowed in patients with impaired renal and/or hepatic function. Hypoglycemia may be prolonged in such patients should it occur.

Hypoglycemia: All sulfonylureas are capable of producing severe hypoglycemia. Proper patient selection, dosage, and instructions are important to avoid hypoglycemia. Renal or hepatic insufficiency may increase the risk of hypoglycemic reactions. Elderly, debilitated or malnourished patients and those with adrenal or pituitary insufficiency are particularly susceptible to the hypoglycemic action of glucose-lowering drugs. Hypoglycemia may be difficult to recognize in the elderly or people taking beta-adrenergic blocking drugs. Hypoglycemia is more likely to occur when caloric intake is deficient, after severe or prolonged exercise, when alcohol is ingested, or when more than one glucose-lowering drug is used.

Loss of Control of Blood Glucose: A loss of control may occur in diabetic patients exposed to stress such as fever, trauma, infection or surgery. It may then be necessary to discontinue GLUCOTROL and administer insulin.

Laboratory Tests: Blood and urine glucose should be monitored periodically. Measurement of glycosylated hemoglobin may be useful.

Information for Patients: Patients should be informed of the potential risks and advantages of GLUCOTROL, of alternative modes of therapy, as well as the importance of adhering to dietary instructions, of a regular exercise program, and of regular testing of urine and/or blood glucose. The risks of hypoglycemia, its symptoms and treatment, and conditions that predispose to its development should be explained to patients and responsible family members. Primary and secondary failure should also be explained.

Drug Interactions: The hypoglycemic action of sulfonylureas may be potentiated by certain drugs including nonsteroidal anti-inflammatory agents and other drugs that are highly protein bound, salicylates, sulfonamides, chloramphenicol, probenecid, coumarins, monoamine oxidase inhibitors, and beta adrenergic blocking agents. *In vitro* studies indicate that GLUCOTROL binds differently than tolbutamide and does not interact with salicylate or dicumarol. However, caution must be exercised in extrapolating these findings to a clinical situation. Certain drugs tend to produce hyperglycemia and may lead to loss of control, including the thiazides and other diuretics, corticosteroids, phenothiazines, thyroid products, estrogens, oral contraceptives, phenytoin, nicotinic acid, sympathomimetics, calcium channel blocking drugs, and isoniazid. A potential interaction between oral miconazole and oral hypoglycemic agents leading to severe hypoglycemia has been reported. Whether this interaction also occurs with the intravenous, topical, or vaginal preparations of miconazole is not known.

Carcinogenesis, Mutagenesis, Impairment of Fertility: A 20-month study in rats and an 18-month study in mice at doses up to 75 times the maximum human dose revealed no evidence of drug-related carcinogenicity. Bacterial and *in vivo* mutagenicity tests were uniformly negative. Studies in rats of both sexes at doses up to 75 times the human dose showed no effects on fertility.

Pregnancy: Pregnancy Category C: GLUCOTROL (glipizide) was found to be mildly fetotoxic in rat reproductive studies at all dose levels (5-50 mg/kg). This fetotoxicity has been similarly noted with other sulfonylureas, such as tolbutamide and tolazamide. The effect is perinatal and believed to be directly related to the pharmacologic (hypoglycemic) action of GLUCOTROL. In studies in rats and rabbits no teratogenic effects were found. There are no adequate and well controlled studies in pregnant women. GLUCOTROL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Because recent information suggests that abnormal blood glucose levels during pregnancy are associated with a higher incidence of congenital abnormalities, many experts recommend that insulin be used during pregnancy to maintain blood glucose levels as close to normal as possible.

Nonteratogenic Effects: Prolonged severe hypoglycemia has been reported in neonates born to mothers who were receiving a sulfonylurea drug at the time of delivery. This has been reported more frequently with the use of agents with prolonged half-lives. GLUCOTROL should be discontinued at least one month before the expected delivery date.

Nursing Mothers: Since some sulfonylurea drugs are known to be excreted in human milk, insulin therapy should be considered if nursing is to be continued.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS: In controlled studies, the frequency of serious adverse reactions reported was very low. Of 702 patients, 11.8% reported adverse reactions and in only 1.5% was GLUCOTROL discontinued.

Hypoglycemia: See PRECAUTIONS and OVERDOSAGE sections.

Gastrointestinal: Gastrointestinal disturbances, the most common, were reported with the following approximate incidence: nausea and diarrhea, one in 70; constipation and gastralgia, one in 100. They appear to be dose-related and may disappear on division or reduction of dosage. Cholestatic jaundice may occur rarely with sulfonylureas: GLUCOTROL should be discontinued if this occurs.

Dermatologic: Allergic skin reactions including erythema, morbilliform or maculopapular eruptions, urticaria, pruritus, and eczema have been reported in about one in 70 patients. These may be transient and may disappear despite continued use of GLUCOTROL; if skin reactions persist, the drug should be discontinued. Porphyria cutanea tarda and photosensitivity reactions have been reported with sulfonylureas.

Hematologic: Leukopenia, agranulocytosis, thrombocytopenia, hemolytic anemia, aplastic anemia, and pancytopenia have been reported with sulfonylureas.

Metabolic: Hepatic porphyria and disulfiram-like alcohol reactions have been reported with sulfonylureas. Clinical experience to date has shown that GLUCOTROL has an extremely low incidence of disulfiram-like reactions.

Endocrine Reactions: Cases of hyponatremia and the syndrome of inappropriate antidiuretic hormone (SIADH) secretion have been reported with this and other sulfonylureas.

Miscellaneous: Dizziness, drowsiness, and headache have been reported in about one in fifty patients treated with GLUCOTROL. They are usually transient and seldom require discontinuance of therapy.

OVERDOSAGE: Overdosage of sulfonylureas including GLUCOTROL can produce hypoglycemia. If hypoglycemic coma is diagnosed or suspected, the patient should be given a rapid intravenous injection of concentrated (50%) glucose solution. This should be followed by a continuous infusion of a more dilute (10%) glucose solution at a rate that will maintain the blood glucose at a level above 100 mg/dL. Patients should be closely monitored for a minimum of 24 to 48 hours since hypoglycemia may recur after apparent clinical recovery. Clearance of GLUCOTROL from plasma would be prolonged in persons with liver disease. Because of the extensive protein binding of GLUCOTROL (glipizide), dialysis is unlikely to be of benefit.

DOSAGE AND ADMINISTRATION: There is no fixed dosage regimen for the management of diabetes mellitus with GLUCOTROL; in general, it should be given approximately 30 minutes before a meal to achieve the greatest reduction in postprandial hyperglycemia.

Initial Dose: The recommended starting dose is 5 mg before breakfast. Geriatric patients or those with liver disease may be started on 2.5 mg. Dosage adjustments should ordinarily be in increments of 2.5-5 mg, as determined by blood glucose response. At least several days should elapse between titration steps.

Maximum Dose: The maximum recommended total daily dose is 40 mg.

Maintenance: Some patients may be effectively controlled on a once-a-day regimen, while others show better response with divided dosing. Total daily doses above 15 mg should ordinarily be divided.

HOW SUPPLIED: GLUCOTROL is available as white, dye-free, scored diamond-shaped tablets imprinted as follows: 5 mg tablet—Pfizer 411 (NOC 5 mg 0049-4110-66) Bottles of 100; 10 mg tablet—Pfizer 412 (NOC 10 mg 0049-4120-65) Bottles of 100.

CAUTION: Federal law prohibits dispensing without prescription.

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When Your Patient Decides To Die

Robert J. Sullivan, Jr., M.D.

The conference topic was the patient's right to refuse life-sustaining treatment. As I sat listening to the guest lecturer, my thoughts turned to a patient I had cared for several years earlier.

Mrs. M. had had a wonderful life. Born early in the century, she was a graduate of a top university and enjoyed a successful career in publicity and marketing. She had been married twice. She had no children and all of her family were now gone.

Her health had been superb until vaginal bleeding led to a diagnosis of uterine cancer. Subsequent surgery revealed widespread metastasis. She received radiation therapy twice for recurrences. The first bowel obstruction was one year later and resolved spontaneously. A second obstruction led to surgery where diffuse severe radiation fibrosis was discovered. Fortunately, all evidence pointed to cure of the cancer. Three months later, she obstructed again. It was then that she took matters firmly in her own hands.

First she refused any diagnostic tests. Then she decided to discontinue intravenous fluids. The medical staff was abruptly diverted from its accustomed headlong pursuit of medical cure by her obstinate refusal to permit intervention. She said she had accepted the initial cancer surgery, radiation therapy and surgical relief of obstruction on the assumption that she would have a normal life thereafter. Now, faced with a probable colostomy and likely future obstructive episodes, she was disenchanted with our ability to effect a cure and her intention was therefore to cease further treatment. Life for her was not worth living if she could not deport herself in an independent and active way. Since we could not return her to her original condition, death was her choice. She asked me to administer morphine intravenously and end it all.

I was appalled. She said I had a choice of how she was going to die; slowly and painfully, or quickly. But she *was* going to die.

Numerous consultations followed with surgeons, internists, psychiatrists, psychologists, nurses, nurse practitioners, social workers, clergy, trust officers, administrators, and attorneys. Several conclusions emerged from hours of discussions.

From Duke University Medical Center, Department of Medicine, Durham 27710.

1 She was in her right mind. She was not depressed, demented or psychotic. Her entire life reflected a pattern of decision and determination.

2 She knew the consequences of surgery and of refusing surgery.

3 She never waivered in her story of why she accepted her past therapy and why she was refusing future therapy.

4 There were no family members alive who could help us or her with this decision.

5 No surgeon would operate on a competent and well-informed woman who refused to sign a surgical permission and threatened to sue if any procedure were done.

6 I could do nothing myself to save her without surgery.

7 She would soon die if she persisted in her refusal to accept therapy.

She was soon transferred from the medical center to my care at a nursing home. I visited her daily and together we faced the implementation of her decision. I told her I could never assist in terminating her life. She told me she would only accept treatment that lead to comfort and nothing that would prolong her life. Accordingly, we agreed on a gastric suction tube to eliminate vomiting and a urine catheter to eliminate the need for a bed pan (she found it degrading) or trips to the bathroom (she was too weak). I agreed to administer morphine injections every four hours to relieve pain in her abdomen presumably due to obstruction and/or ischemic bowel. And that was it. She accepted ice chips to keep her mouth moist but refused even hard candy in fear that it would provide sustenance. I told her it would be a week at the most and all would be over. Her trust officer arranged a final copy of her will. Then she settled back to write everyone she knew a last letter.

I was in a quandary. I could not condone suicide, and her death from a potentially curable obstruction seemed close to it. Yet her logic was good and her right to make this decision seemed clear. I returned to Hippocratic principles and first did no harm: I refused to administer morphine beyond that necessary for pain relief. Then I did everything possible to relieve suffering.

It didn't take a week for her to die. It took more than four weeks. She had considerable ascites and edema fluid accumulated which sustained her circulation and renal function beyond my wildest estimates. Despite continuous nasogastric suction and the absence of oral or intravenous

intake, she persisted lucid and alert. I began to feel I was indeed torturing this elegant and determined woman who came to resemble a famine or war-camp victim. She never wavered in her resolve to die and she never let me forget the problems I was causing by my refusal to end her life for her. I had numerous conversations about her with my colleagues but still the burden was mine and I felt it deeply. We were both unburdened when she died on day 29 after her decision.

The conference speaker concluded with a review of recent court cases that acknowledge rights of patients to refuse life-sustaining treatment. I took some comfort in the fact that others were confused on precisely the same issues I had faced in caring for Mrs. M. Things were far from clear, as shown by the numerous suits, counter suits, and conflicting ethical and legal opinions.

I left the meeting with the same doubt and uncertainty I had felt years before when Mrs. M. put me to the test. I still admire her courage and fortitude. She knew how to live. And when life was over for her, she saw it clearly and insisted we let her go her own way. How awful. How wonderful. How rare. ■

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Letters to the Editor

To the Editor:

Thank you to you and your reviewer for your thoughtful criticisms of my paper on exercise and longevity. After careful consideration, I believe many of the criticisms were valid. The original objective of the paper was to comply with my epidemiology course assignment to perform an extensive analysis of only three or four manually selected, representative articles on a topic of interest. I still contend that this objective was accomplished. However, I can now clearly see that the Journal's readers would be better served by a more extensive, systematic and computerized literature search with a more comprehensive perspective of all the available evidence.

Although the paper was rejected, I enjoyed writing it, earned a perfect grade and learned a great deal from your criticisms — for which I will always be grateful. Some day, I will submit a different and better article to your Journal for publication. With the experience gained on this first attempt, I will succeed!

Thomas Funcik
237 D Jackson Circle
Chapel Hill 27514

Reply to Dr. Mack's paper

To the Editor:

I read with great interest the article by Ronald B. Mack, M.D., in the *North Carolina Medical Journal*, on hydrogen sulfide poisoning (World Enough and Time — Hydrogen Sulfide Poisoning, 1986;47:33-4).

I believe further clarification as to the physiology of the colored halos is appropriate. The effects of hydrogen sulfide on the eyes most commonly occur at concentrations so low that they have no systemic effect. The ocular symptoms generally start after several hours of exposure, and may not appear until the patient had finished the work for the day. The workmen may also be exposed to low concentrations of the hydrogen sulfide gas and become accustomed to the initial unpleasant odor. This adaptation to the unpleasant odor provides them the environment for continued ocular injury. The corneal epithelial surface develops a fine punctate stain visible by split lamp biomicroscopy. The corneal epithelial injury results in a vesicle formation in the basal epithelial layer. This acts as a diffraction grating.

The refractive index of the edema fluid is different from the surrounding epithelial cells. When this difference in the index of refraction has a regular pattern it will serve as a diffraction grating and will be responsible for the appearance of the rainbow colored halos. The accumulation of fluid in the cornea is also the reason patients experiencing an acute attack of glaucoma also have colored halos around lights.

I made this article available to my wife who works as a chemist in a municipal waste treatment plant. She made the article available to her co-workers who are exposed to the potential of hydrogen sulfide poisoning. Their primary comment was, "Hydrogen sulfide can kill." The article treats it more as a joke. That was my impression as I read this otherwise informative article.

It is unfortunate that the serious tone of the article was distracted by the multiple attempts at humor.

I have found the new format of the *North Carolina Medical Journal* enjoyable and very useful to both my own professional needs, as well as the interest of my friends and patients. Dr. Mack's feature articles on toxic encounters have been especially interesting to me and I hope to continue to be able to read them in future articles.

Joseph Majstoravich, Jr., M.D.
P.O.Box 1317
18 Medical Park
Morehead City 28557-1317

Response from Dr. Mack:

I wish to extend my thanks to Dr. Joseph Majstoravich, Jr. for his clarification of the pathophysiology of colored halos as reported by some patients with hydrogen sulfide poisoning. I am certainly grateful for his willingness to share his knowledge.

As far as the treatment of this poisoning as a "joke" as Dr. Majstoravich has concluded after reading my article, I must take umbrage. Quite to the contrary I tried to stress, in several places in the article, that hydrogen sulfide kills and that time is the essence vis-a-vis diagnosis and emergency treatment.

It is my opinion that humor is a trait in man (and woman, I hope) that has been selected out to help survival of our species. Certainly the use of humor in medicine can be useful in assuaging anxiety in such stressful situations as an article on poisoning, in helping readers to remember the salient features of the written words and to allow the author to express to his readership that life in general and the practice of medicine is so serious that it should never be taken seriously. There are many physicians in this state who can write informative articles on toxicology; my meager talent, if it exists, is to present the material to non-toxicology-minded physicians who want to add to their data base in a relatively painless manner. Far from taking away from our humanity, I believe humor expresses it.

Ronald B. Mack, M.D.
Associate Professor of Pediatrics
Wake Forest University
Bowman Gray School of Medicine
300 S. Hawthorne Rd.
Winston-Salem 27103

Replies to Professor Hauerwas's editorial

To the Editor:

In his reply (NCMJ 1987;48:67-8) to the editorial "Sobering Thoughts" by Crist et al (1986;47:511) and subsequent letters, Professor S. Hauerwas discussed both the diversity of Catholicism and abortion. He did not define or discuss "overpopulation." By ignoring overpopulation, the discussion on abortion was like a discourse on fish without mentioning that they live in water.

Let me define "overpopulation." A country is overpopulated when its rate of utilization of resources significantly exceeds a possible steady state. Since we have a large trade deficit and are daily importing more than a million barrels of oil, the USA already is a seriously overpopulated country.

Professor Hauerwas eloquently presents the diversity of Catholicism. Of course, some differences are allowed in the Catholic Church. But a contrary case also can be made. Low level clergy who do not ardently support the Vatican's policies seldom become Cardinals. Furthermore, Catholic theology professors who do not follow the Vatican's teachings on prohibiting contraceptives can be stripped of their teaching privileges.

Where society at large must support the offspring, the Catholic Church has policies which favor large families. Where the Catholic church itself would be responsible for the care, such as the possible offspring of priests and nuns, it requires strict celibacy and chastity. The policy apparently reverses 180° according to who will be bearing the expense.

Where we differ is that Professor Hauerwas apparently does not consider overpopulation to be a serious problem in the USA. I think overpopulation is a major problem; and, unless we soon do something effective about controlling the growth of population, we shall almost surely lose our democracy and many freedoms we now cherish.

In an old story, ostriches sometimes hide their heads in the sand to avoid seeing danger. The story unfortunately has the wrong animal. It is we humans, not ostriches, who often do not wish to see impending trouble.

Albert D. Warshauer, M.D.
1608 East Fifth Street
Greenville 27858

To the Editor:

This is in response to the editorials by Dr. Crist and his colleagues and Dr. Hauerwas. The abortion and religious controversies aside, it is true that American women have fewer contraceptive methods available than women in other countries. Two methods not available to U.S. women in 1987 are the injectable contraceptive depot medroxyprogesterone acetate (Depo Provera, Upjohn) and the intrauterine device (IUD). Although Depo Provera is now available in 84 countries around the world, the Food and Drug Administration (FDA) has not approved it for contraceptive indications (it is available for other indications). The FDA Commissioner went against the recommendation of his advisory board when he decided to withhold approval.

The case of IUDs is a little different, as they continue to enjoy the approval of the FDA. The IUD is no longer marketed because of the American propensity to bring product liability suits for anything less than perfection. The reputation of the IUD as a contraceptive method has suffered greatly as a result of the Dalkon Shield — an IUD with serious defects from which the FDA *did* withdraw its approval. What the accumulated epidemiologic evidence on IUDs tells us is that IUDs should be prescribed only to a limited group of women, those at low risk of contracting sexually transmitted disease. For this limited group the IUD remains an excellent method of contraception — if available. Physicians and epidemiologists understand that pelvic inflammatory disease and subsequent infertility are caused by sexually transmitted diseases which IUDs, unlike some other contraceptive methods, do nothing to prevent. Juries, unfortunately, rarely understand this.

A similar fate may befall spermicidal products. A federal appellate court recently upheld the award of $4.8 million to the parents of a congenitally malformed child conceived during spermicide jelly use. The original trial judge and the appeals decision rejected the weight of epidemiologic evidence that spermicides do not cause malformations. In fact, the FDA had previously ruled that spermicidal products need not include warnings of birth defects on their labels. The appellate decision stated that "product liability law does not preclude recovery until a 'statistically significant' number of people have been injured. . ." But injured by what? Spermicides have been termed the newest "litogen" — a drug that does not cause malformations but does cause lawsuits.

No method of contraception is perfect; even condoms can cause latex irritation. Are we to lose all these methods because somebody sues? Will the epidemic of unintended pregnancies worsen in light of reduced family planning choices? Most people don't remember the days when rhythm, condoms and illegal abortion were the only choices, but we may be headed in that direction unless we can put things in a clearer perspective.

Judith A. Fortney, PhD
Paul J. Feldblum, MSPH
Reproductive Epidemiology Division
Family Health International
Research Triangle Park, NC 27709

To the Editor:

I have just read the editorial "Catholicism and Ethics" by Stanley Hauerwas, Ph.D. Thank you.

David Ames, M.D.
313 Longmeadow Rd.
Greenville, 27858

Concerns about Dr. Dykers's project

To Dr. John R. Dykers, Jr.:

We certainly appreciate your interest in the recognition and control of sexually transmitted diseases. However, we

have a number of concerns about the SAFECARD [AIDCARD] project you describe. Thank you for the opportunity to comment.

Taking each test in turn: HTLV-III or HIV antibody testing may appropriately be used to assist in diagnosis for individuals with signs and symptoms suggestive of HIV infection. However, its usefulness as a screening test is much less well established at the present time. First of all, recommendations for preventing acquisition and transmission of HIV are essentially identical:

1 limit number of sex partners (lifetime monogamy is safest);
2 if an individual or his/her partner has had more than one partner, avoid exchange of blood, semen, and vaginal fluids during sex (condoms are one way to do this);
3 don't use IV drugs, persons who do shouldn't share needles and should follow safer sex guidelines;
4 don't share other items which might be contaminated with blood, e.g. razors and toothbrushes.

These recommendations apply to everyone regardless of whether or not they belong to an AIDS high risk group, whether or not they have been tested, and whether or not they are antibody positive. We feel *strongly* that testing is an *adjunct* to careful risk-reduction counseling and that it has little merit apart from counseling. Test reliability and interpretation is of concern: will EIA results be repeated and confirmatory testing by Western Blot (WB) or IFA be done before they are reported? Will results be reported to individuals without proper interpretation by a health care professional about what they mean? Some negatives are falsely negative, particularly for recently infected individuals, and may lead to a false sense of security and to transmission of the virus to others unless proper risk reduction behaviors are followed. In low prevalence populations — such as heterosexuals who are not hemophiliacs, IV drug users, or sex partners of someone known to be at high risk — as many as 9 of every 10 positive EIA results are false positives. These are not entirely clarified by confirmatory testing by WB. The sensitivity of WB is unknown but appears to be much lower than EIA, hence some true positives will be negative by WB. As you can see, interpretation of HIV antibody test results is complex and difficult.

An additional concern is issuance of a SAFECARD [AIDCARD™]. This indicates a presumption that negative tests signify the absence of infection and risk associated with sexual contact. This cannot be defended on two grounds:

1 a negative test may be falsely negative as noted above;
2 the tested individual may become infected the day following testing because of a false sense of security and may transmit to others.

Public health officials in California succeeded in prohibiting this and similar systems several months ago on the grounds that it threatened public health. We feel that the SAFECARD system represents a serious and grave threat to the public health. We must strongly discourage its implementation.

Regarding the other tests: As you mention chlamydia antibodies are poorly correlated with current infection. Their utilization as a screening tool for infection cannot be defended. Indeed their usefulness in diagnosis is limited, and only when a four-fold rise in titer is found on convalescent sera in symptomatic patients is diagnostic testing valid. Both HBsAg and RPR are useful diagnostic tests and appropriate screening tests in populations at increased risk. A few years ago the requirement for premarital syphilis serologies was removed from the law because the low prevalence fails to justify the cost of screening. In any case, marketing of these tests directly to the lay population has serious public health implications. By law, all positive syphilis serologies and cases of Hepatitis B and laboratory confirmed chlamydia must be reported to public health authorities. While the laboratory doing these tests would hopefully report positive RPR's, it is likely that many would be low titer biological false positives and others residual standing titers due to previously treated syphilis. Many individuals would misinterpret results as positive when they were clinically insignificant and negative when infection was present. Many in both groups would fail to seek medical care while others would attempt self-medication, and still others would suffer grave, unnecessary psychological and social consequences.

Diagnosis of each of these conditions should be done by well trained, competent health care providers. Physicians should certainly maintain a high index of suspicion for each of these conditions in their adolescent and adult patients, most of whom are sexually active and few, monogamous for life. Diagnostic and treatment services for hepatitis B, chlamydia, syphilis, and other sexually transmissible diseases are available free of charge at all local health departments where confidentiality is assured. Anonymous AIDS antibody testing and *counseling* are available at no charge in 95 of 100 local health departments in North Carolina. The staff in these health departments have received substantial training in pre- and post-test counseling and risk reduction education.

We feel strongly that the SAFECARD [AIDCARD™] program is a serious threat to the public health and should not be implemented. We believe that counseling, testing, and the provision of proper control measures (including treatment, contact notification as appropriate, and risk reduction education) absolutely must accompany all screening for communicable diseases.

J.N. MacCormack, M.D., M.P.H.
State Epidemiologist
R.A. Meriwether, M.D.
Head, Communicable Disease Control Branch
North Carolina Department of Human Resources
Division of Health Services
P.O. Box 2091
Raleigh 27602-2091

Bulletin Board

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Bruce Steven Ribner (ID), VA Medical Center, Asheville 28805

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Granville
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Robert John Reibold (IM), 506 Park Hill court, Hendersonville 28739
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Mark Neal Dumas (IM), 313 Airport Rd., Kinston 28501

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David Redding Kingery (ORS), 225 Hawthorne Ln., Charlotte 28204
Walter Schoen, 1350 S. Kings Dr., Charlotte 28207Murray Wells Turner (IM), 125 Baldwin Ave., Charlotte 28204

Moore
Ellen Andrews (N),PO Box 1749, Pinehurst 28374

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James Joseph De Ligio (FP), Kitty Hawk Medical Ctr., Kitty Hawk 27949

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Thomas Arthur Dillard (IM),ECU School of Med., Dept. of Medicine, Greenville 27834
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Assad Movahed (CD), Section of Cardiology, ECU School of Medicine, Greenville 27858
Denzil Dean Patton (FP), ECU School of Med., PO Box 1846, Greenville 27835
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Frank Louis Tortora, Jr. (U), 915 Kildaire Farm Rd., Cary 27511

Watauga
Carl Robert Nordstrom (FP), 10 Doctor's Dr., Boone 28607

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Continuing Medical Education

Please note: The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina (ECU) and UNC Schools of Medicine, Dorothea Dix, and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or cosponsored by these schools automatically qualify for AMA Category I credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been obtained, this also is indicated.

IN STATE

April 9

North Carolina Clinical Neuro-Ophthalmology Review
Place: Chapel Hill
Info: Baird S. Grimson, M.D., Dept of Ophthalmology, University of North Carolina, 617 Clinical Science Bldg. 229H, Chapel Hill 27514. 919/966-5296

April 9-11

Advanced Vitreous Surgery Course V
Place: Chapel Hill
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

April 10

Plasma Cell Myeloma and Related Diseases
Place: Durham
Credit: 6 hours Category I AMA
Fee: $75
Info: Myeloma Symposium, Box 3096 DUMC, Durham 27710

April 10-11

Advanced Cardiac Life Support Provider Course
Place: Asheville
Credit: 16 hours Category I AMA
Fee: $200
Info: Daniel L. Dolan, M.D., MAHEC, 501 Biltmore Ave., Asheville 28801-4686. 704/258-0881

April 11

Indigent Health Care
Place: Asheville
Fee: $5
Info: Carol Epps, NCMS, 800/722-1350; or Agnes Smith, NC Legal Services Resource Center, 919/821-0042

April 11-22

Highway Safety Conference
Place: Boone
Fee: $25
Credit: 7 Hours Category I AMA
Info: W. Douglas Wooten, Head, Highway Safety Branch, Div. of Health Service, P.O. Box 2091, Raleigh 27602. 919/733-3222

April 22

Neonatal Emergencies: Recognition and Treatment
Place: Greenville
Credit: 6 hours Category I AMA
Fee: $55
Info: Office of CME, ECU School of Medicine, P.O. Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

April 24-26

Second International DREZ Symposium (Dorsal Root Entry Zone)
Place: Research Triangle Park
Credit 13 hours Category I AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

April 25

Indigent Health Care
Place: Greenville
Fee: $5
Info: Carol Epps, NCMS, 800/722-1350; or Agnes Smith, NC Legal Services Resource Center, 919/821-0042

April 25

Fifteenth Annual New Bern Symposium: The Care of the Elderly
Place: New Bern
Info: Wm. B. Hunt, Jr., M.D., Symposium Director, P.O. Box 2157, New Bern 28560. 919/633-8608

April 27-29

Doppler Echocardiography: Beginning with Color Flow Mapping
Place: Durham
Credit: 33 hours Category I AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

April 27-May 1

Physical Aspects of Hyperthermia
Place: Durham
Credit 33 hours Category I AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

May 1-3

Women Physicians Meeting
Place: Asheboro
Credit: 5 hours AAFP
Info: Paula Baker, NCAFP. 919/781-6467

May 8-9

Emergencies of the Lung and Gut in Pediatric Patients
Place: Durham
Fee: $90
Credit: 10 hours Category I AMA
Info: Dr. Alexander Spock, M.D., Duke University Medical Center, Box 2994, Durham 27710. 919/681-3364

May 9

Indigent Health Care
Place: Winston-Salem
Fee: $5
Info: Carol Epps, NCMS, 800/722-1350; or Agnes Smith, NC Legal Services Resource Center, 919/821-0042

May 13

Common Diagnostic Problems in Surgical Pathology: A Practical Approach
Place: Greenville
Fee: $55
Credit: 7 hours Category I AMA
Info: The Office of CME, ECU School of Medicine, P.O. Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

May 15

Adolescent Health Issues: The New Morbidities
Place: Durham
Credit: 8 hours Category I AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

May 22

4th Annual Eye Conference — ''Ocular Tumors''
Place: Winston-Salem
Info: Kirk Huske, Bowman Gray School of Medicine of Wake Forest University, Graylyn Conference Center, Winston-Salem 27103. 919/748-3971

June 3

Duke CME Series
Place: Durham
Credit: pending
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

June 5-7

Duke Eye Center Alumni Spring Meeting
Place: Chapel Hill
Credit: 8 hours Category I AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

June 9

1987 Series — Duke Tuesday
Place: Durham
Credit: 5 hours Category I AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

June 11-13

34th Annual Mountaintop Medical Assembly
Place: Waynesville
Info: Mountaintop Medical Assembly, Waynesville 28786. 704/456-6021

June 15-17

Surgery for Coronary Artery Disease
Place: Durham
Fee: $460 ACC members; $525 others
Credit: 17 hours Category I ACCME
Info: Registration Secretary, Extramural Programs Dept, American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 800/253-4636; in MD or AK 301/897-5400

July 13-15

U.S. Olympic Festival Sports Medicine Conference: Part II, Athletic Injury Prevention and Treatment
Place: Durham
Credit: pending
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

July 13-17

29th Annual Postgraduate Course/Morehead Symposium
Place: Durham
Credit: 26 hours Category I AMA; AAFP 24.75 prescribed
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

July 27-31

10th Annual Radiology Postgraduate Course
Place: Atlantic Beach
Credit: 20 hours Category I AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

Nursing

Except where otherwise noted, contact Nettie Wilburn, CPS, Office of Continuing Education, University of North Carolina, Chapel Hill 27514. 919/966-3638.

May 13-14

The Systematic Process of Instructional Development
Place: Chapel Hill
Credit: 13.2 CEUs pending
Fee: $110

June 1-5

Preparation for NCLEX-RN
Place: Chapel Hill
Credit: 3.39 CEUs
Fee: $75 UNC-CH students: $85 others

June 1-19

Summer Institute: Gerontology for Nurse Educators
Place: Chapel Hill
Credit: 3 CEUs
Fee: $3

OUT OF STATE

April 9-10

16th Annual School Health Education
Place: Johnson City, TN
Info: Ramona Miller, Ph.D., Program Coordinator, Office of CME, Quillen-Dishner College of Medicine, Johnson City, TN 37614. 615/929-6204

April 9-11

Thoracic Imaging Update
Place: Monterey, CA
Credit: 13 hours Category I AMA
Fee: $295
Info: 415/476-5808

April 9-11

Current Concepts in Vascular Surgery
Place: Philadelphia, PA
Info: Fay Zelle, Hahnemann University, Broad and Vine Streets, M.X. 623, Philadelphia, PA 19102. 215/448-8263

April 10-12

OB/GYN and Abdominal Sonography: Update '87
Place: San Francisco, CA
Credit: 14.5 hours Category I AMA
Fee: $325
Info: 415/476-5808

April 10-12

5th Annual MCV Symposium: New Trends in Anesthesia
Place: Williamsburg, VA
Fee: $275
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 10-12

22nd Annual Pediatric Springfest
Place: Williamsburg, VA
Fee: $250
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 12-18

Pathology Update 1987: Review of Current Concepts and New Developments
Place: Baltimore, MD
Info: American Society of Clinical Pathologists, 800/621-4142 (in IL 312/738-4890)

April 16-17

Current Topics in Trauma
Place: Johnson City, TN
Info: Ramona Miller, Ph.D., Program Coordinator, Office of CME, Quillen-Dishner College of Medicine, Johnson City, TN 37614. 615/929-6204

April 18-25

9th Diving Accident/Hyperbaric Oxygen Treatment Course
Place: Grand Cayman Island, BWI
Credit: 24 hours Category I, AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878; outside NC 800/222-9984

April 23-25

Update in Cardiology: Recent Trends and Controversies
Place: Johnson City, TN
Info: Ramona Miller, Ph.D., Program Coordinator, Office of CME, Quillen-Dishner College of Medicine, Johnson City, TN 37614. 615/929-6204

April 23-25

23rd Annual Postgraduate Course in Radiology: The Chest
Place: Richmond, VA
Fee: $325
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 24-25

The Terminally Ill Patient: Psychological, Social, Legal, and Ethical Issues
Place: Boston, MA
Info: Harvard Medical School, Dept. of CME, Boston, MA 02115. 617/732-1525

April 24-26

9th Annual Conference on Emergency Medicine for the Primary Care Physician
Place: Williamsburg, VA
Fee: $295
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 24-26

7th Annual Clinical Concerns in Primary Care: Office Cardiology
Place: Williamsburg, VA
Fee: $295
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

April 27-May 2 (and March 2-7)
22nd Annual Family Practice Symposium
Place: Augusta, GA
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

April 29
Acute Care Problems in Family Practice
Place: Johnson City, TN
Info: Ramona Miller, Ph.D., Program Coordinator, Office of CME, Quillen-Dishner College of Medicine, Johnson City, TN 37614. 615/929-6204

April 30-May 2
Clinical Nuclear Cardiology: Case Review with the Experts
Place: Bethesda, MD
Credit: 21.5 hours Category I AMA
Fee: $415-465
Info: American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 800/253-4636 (in MD, 301/897-5400, ext 241)

April 30-May 3
North American Society of Pacing and Electrophysiology
Place: Boston, MA
Credit: 16 hours Category I AMA (for General Sessions)
Fee: $90-215
Info: NASPE Registration, 13 Eaton Court, Wellesley Hills, MA 02181. 617/237-1866

May 2-9
Doppler and 2-D Echocardiology
Place: Newport Beach, CA
Fee: $895 approx.
Credit: 40 hours Category I AMA
Info: Lisa Krehbiel, Institute for Medical Studies, 30131 Town Center Dr., Ste. 215, Laguna Niguel, CA 92677. 714/495-4499

May 8-10
6th Annual MCV Cardiology Conference
Place: Williamsburg, VA
Fee: $325
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

May 11-15
Consultant's Course in Cardiology
Place: New York, NY
Credit: 32 hours Category I AMA
Fee: $425 ACC members; $525 others
Info: Registration Secretary, Extramural Programs Dept., American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 800/253-4636; MD & AK, 301/897-5400 ext 226

May 14-16
Vascular Surgery 1987: Third International Vascular Symposium
Place: New York, NY
Fee: $400
Credit: 24 hours Category I AMA
Info: Ann J. Boehme, Assoc. Director for CME, Long Island Jewish Medical Center, New Hyde Park, NY 11042. 718/470-8650

May 15
3rd Annual Symposium on Geriatric Medicine
Place: Norfolk, VA
Credit: 5 hours Category I AMA
Fee: $35-55
Info: Elaine Halverson, EVMS-CME, P.O. Box 1980, Norfolk, VA 23501. 804/446-5243

May 17
Annual Meeting, NC Chapter of American College of Surgeons
Place: Myrtle Beach, SC
Credit: 8 hours Category I AMA
Fee: $50
Info: Michael C. Rowland, M.D., F.A.C.S., Secretary-Treasurer, NC-ACS, P.O. Box 2000, Pinehurst 28374. 919/295-2232

May 18-19
14th Annual Hans Berger Day and EEG Symposium
Place: Richmond, VA
Fee: $250
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

May 19-22
Cell Calcium Metabolism '87: Physiology, Biochemistry, Pharmacology, and Clinical Implications
Place: Washington, D.C.
Info: Dr. Gary Fiskum, Dept. of Biochemistry, The George Washington University of Medicine and Health Sciences, 2300 Eye St. NW, Washington, D.C. 20037.

May 22-24
2nd Annual Duke Anesthesiology Conference: Oxygen Transport in the Clinical Setting
Place: Charleston, SC
Credit: 13 hours Category 1 AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878; outside NC 800/222-9984

May 23-25
Gynecologic Urology and Pelvic Surgery
Place: Williamsburg, VA
Fee: $260
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

May 26-30
Fifth Annual Cardiology Update
Place: Honolulu, HA
Fee: $395
Info: Lisa Krehbiel, 30131 Town Center Dr., Ste. 215, Laguna Niguel, CA 92677. 714/495-4499

May 30
Management of Tough Problems in Psychiatric Practice
Place: Gatlinburg, TN
Info: Ramona Miller, Ph.D., Program Coordinator, Office of CME, Quillen-Dishner College of Medicine, Johnson City, TN 37614. 615/929-6204

May 30-June 2
International Conference on Missionary Medicine
Place: St. Simons Island, GA
Fee: $100-225
Info: Registrar, ICMM, MAP International, Box 50, Brunswick, GA 31520. 912/265-6010, ext 321

June 1-5
Basic Mechanisms of Cardiovascular Diseases: Implications for Prevention and Therapy
Place: London, England
Credit: 26 hours Category I AMA
Fee: $425
Info: London Cardiology Course, Div. of CME-Vanderbilt, CCC-5326 Medical Center North, Nashville, TN 37232. 615/322-4030

June 3-7
Eleventh Annual Postgraduate Course on Rehabilitation of the Brain-Injured Adult and Child
Place: Williamsburg, VA
Fee: $285
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Station, Richmond, VA 23298-0001. 804/786-0494

June 4-6
11th Annual Update Cardiology for the Primary Physician
Place: Charleston, SC
Credit: 19 Hours Category I AMA
Fee: $335-400
Info: Registration Secretary, Extramural Programs Dept., American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 800/253-4636 (in MD and AK, 301/897-5400, ext 226)

June 5-7
16th Annual Scientific Assembly, CA Chapter of American College of Emergency Physicians
Place: Newport Beach, CA
Fee: $250 non-members
Info: CAL/ACEP, 505 N. Sepulveda Blvd., #12-14, Manhattan Beach, CA 90266. 213/374-4039

June 6-11
Advanced Techniques in MRI
Place: Kiawah Island, SC
Credit: 14 hours Category I AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878; outside NC 800/222-9984

June 8-10

Aggressive Management of Cardiovascular Emergencies
Place: Bethesda, MD
Credit: 17 hours Category I AMA
Fee: $415 members ACC; $465 others
Info: Program Registrar, Heart House Learning Center, American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 301/897-5400, ext 241; 800/253-4636

June 9-13

4th Annual Adult Infectious Disease Seminar — Current Update
Place: Hilton Head Island, SC
Credit: 19 hours Category I AMA, AAFP
Fee: $295
Info: George M. Converse, M.D., Director, Medical Education, Lloyd Noland Hospital and Health Centers, 701 Ridgeway Rd., Fairfield, AL 35064. 800/845-6131 (in SC, 800/922-7042)

June 10-13

Post-Graduate Course: Dermatology for Non-Dermatologists
Place: Myrtle Beach, SC
Credit: 15.5 hours Category I AMA
Fee: $200-350
Info: Div. of Dermatology, Box 3135, Duke University Medical Center, Durham 27710. 919/684-2504

June 11-13

Advanced Echocardiography and Doppler Ultrasound 1987
Place: San Diego, CA
Credit: 21 hours Category I AMA
Fee: $295-450
Info: Registration Secretary, Extramural Programs Dept, American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 301/897-5400, ext 241; 800/253-4636

June 11-13

Current Advances in Pediatric Practice
Place: Gatlinburg, TN
Credit: 12 hours Category I/PREP, AAP, AAFP
Info: Dr. Sandra Loucks, University of Tennessee Memorial Research Center and Hospital, Dept. of Pediatrics, 1924 Alcoa Highway, Knoxville, TN 37920. 615/544-9331

June 15-17

Management of Clinically Localized Prostate Cancer
Place: Bethesda, MD
Credit: 14 hours Category I AMA
Info: Nancy Cowan, Prospect Associates, 1801 Rockville Pike, Suite 500, Rockville, MD 20852. 301/468-6555

June 15-18

18th Annual Internal Medicine Symposium
Place: Kiawah Island, SC
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

June 15-18

4th Annual Advanced Colposcopy and Basic and Advanced Gynecologic Laser Surgery
Place: Hilton Head, SC
Info: Educational Associates, P.O. Box 24772, Winston-Salem 27114. 919/760-2788

June 21-28

3rd Annual Advances in Internal Medicine
Place: Hilton Head Island, SC
Credit: 25 hours Category I AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878; outside NC 800/222-9984

July 9-11

Clinical Obstetrics
Place: Kiawah Island, SC
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

July 13-16

Clinical Cardiology
Place: Kiawah Island, SC
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

July 16-18

3rd Annual Berkshire Medical Conference: Advances in Cardiology
Place: Hancock, MA
Credit: 16 hours Category I AMA
Fee: $295
Info: Berkshire AHEC, 725 North St., Pittsfield, MA 01201. 413/499-4161, ext 2417

July 17-19

Practical Internal Medicine: Selected Topics for the Internist
Place: Virginia Beach, VA
Fee: $295
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Station, Richmond, VA 23298-0001

July 22-26

Critical Care Medicine
Place: Kiawah Island, SC
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

July 23-25

3rd Annual Berkshire Medical Conference: Common Emergencies in General Medicine
Place: Hancock, MA
Credit: 16 hours Category I AMA
Fee: $295
Info: Berkshire AHEC, 725 North St., Pittsfield, MA 01201. 413/499-4161, ext 2417

July 27-29

Pediatric Update 1987
Place: Kiawah Island, SC
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

July 31-August 2

The 9th Annual Pediatric Primary Care Conference: Pediatrics at the Beach
Place: Virginia Beach, VA
Fee: $275
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Station, Richmond, VA 23298-0001

August 2-7

Diagnostic Electron Microscopy: Annual Meeting, Electron Microscopy Society of America
Place: Baltimore, MD
Info: John Shelburne, M.D., or Victor Roggli, M.D., Dept. of Pathology, Duke University and V.A. Medical Centers, Durham 27710. 919/286-6925

August 3-8

Your Practice, Your Money, Your Family
Place: Hilton Head Island, SC
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450, 404/828-3967

August 6-9

Summer Retreat: Practical Issues in Primary Care
Place: Virginia Beach, VA
Fee: $350
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48 MCV Station, Richmond, VA 23298-0001. 804/786-0494

August 14-16

Primary Care of the Female Patient
Place: Virginia Beach, VA
Fee: $295
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48 MCV Station, Richmond, VA 23298-0001. 804/786-0494

August 15

Seminar on Geriatrics
Place: Abingdon, VA
Info: Ramona Miller, Ph.D., Program Coordinator, Office of CME, Quillen-Dishner College of Medicine, Johnson City, TN 37614. 615/929-6204

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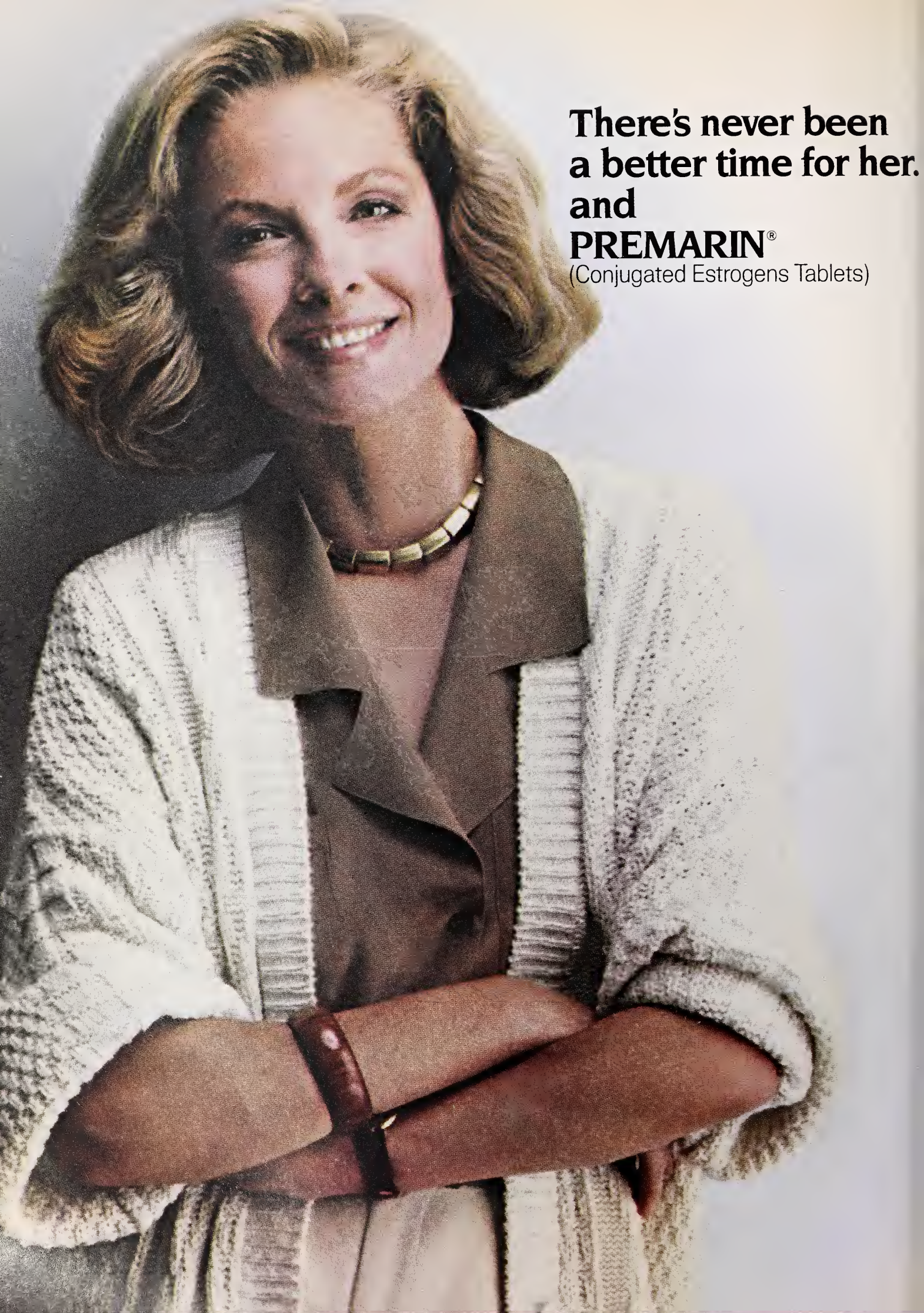


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Now the evidence looks better than ever

Significantly reduced risk of endometrial hyperplasia

Endometrial hyperplasia was significantly reduced when progestin was added to PREMARIN therapy for more than ten days a month.[1-4] The risk of endometrial hyperplasia may also be reduced through cyclic administration of unopposed, low-dose PREMARIN.

Effect on lipids—an important feature

PREMARIN used alone does not adversely affect lipid levels. In fact, a clinical study has shown a significant increase in HDL cholesterol—from 49.7 mg/dL to 56.4 mg/dL—and decrease in LDL cholesterol—from 165.1 mg/dL to 138.1 mg/dL—after one year of therapy with PREMARIN, 0.625 mg.[5]

Low-dose control of menopausal symptoms*

PREMARIN effectively relieves vasomotor symptoms, such as hot flashes. When estrogen deficiency is limited to atrophic vaginitis, PREMARIN® (conjugated estrogens) Vaginal Cream restores the vaginal environment to its premenopausal state.

The most widely used, most extensively studied estrogen worldwide.

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Most trusted for more reasons

*PREMARIN is indicated for moderate-to-severe vasomotor symptoms.

Please see following page for brief summary of prescribing information.

For moderate-to-severe vasomotor symptoms

PREMARIN®
(Conjugated Estrogens Tablets)



0.3 mg 0.625 mg 0.9 mg 1.25 mg 2.5 mg

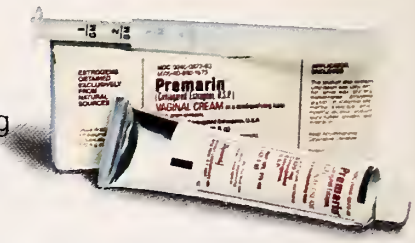
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For atrophic vaginitis

PREMARIN®
(Conjugated Estrogens)

Vaginal Cream

0.625mg/g



BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION AND PATIENT INFORMATION, SEE PACKAGE CIRCULARS.)*

PREMARIN® Brand of conjugated estrogens tablets, USP
PREMARIN® Brand of conjugated estrogens Vaginal Cream in a nonliquefying base

1. ESTROGENS HAVE BEEN REPORTED TO INCREASE THE RISK OF ENDOMETRIAL CARCINOMA.

Three independent case control studies have reported an increased risk of endometrial cancer in postmenopausal women exposed to exogenous estrogens for more than one year. This risk was independent of the other known risk factors for endometrial cancer. These studies are further supported by the finding that incidence rates of endometrial cancer have increased sharply since 1969 in eight different areas of the United States with population-based cancer reporting systems, an increase which may be related to the rapidly expanding use of estrogens during the last decade. The three case control studies reported that the risk of endometrial cancer in estrogen users was about 4.5 to 13.9 times greater than in nonusers. The risk appears to depend on both duration of treatment and on estrogen dose. In view of these findings, when estrogens are used for the treatment of menopausal symptoms, the lowest dose that will control symptoms should be utilized and medication should be discontinued as soon as possible. When prolonged treatment is medically indicated, the patient should be reassessed on at least a semiannual basis to determine the need for continued therapy. Although the evidence must be considered preliminary, one study suggests that cyclic administration of low doses of estrogen may carry less risk than continuous administration; it therefore appears prudent to utilize such a regimen. Close clinical surveillance of all women taking estrogens is important. In all cases of undiagnosed persistent or recurring abnormal vaginal bleeding, adequate diagnostic measures should be undertaken to rule out malignancy. There is no evidence at present that "natural" estrogens are more or less hazardous than "synthetic" estrogens at equiestrogenic doses.

2. ESTROGENS SHOULD NOT BE USED DURING PREGNANCY.

The use of female sex hormones, both estrogens and progestogens, during early pregnancy may seriously damage the offspring. It has been shown that females exposed in utero to diethylstilbestrol, a non-steroidal estrogen, have an increased risk of developing in later life a form of vaginal or cervical cancer that is ordinarily extremely rare. This risk has been estimated as not greater than 4 per 1,000 exposures. Furthermore, a high percentage of such exposed women (from 30% to 90%) have been found to have vaginal adenosis, epithelial changes of the vagina and cervix. Although these changes are histologically benign, it is not known whether they are precursors of malignancy. Although similar data are not available with the use of other estrogens, it cannot be presumed they would not induce similar changes. Several reports suggest an association between intrauterine exposure to female sex hormones and congenital anomalies, including congenital heart defects and limb reduction defects. One case control study estimated a 4.7-fold increased risk of limb reduction defects in infants exposed in utero to sex hormones (oral contraceptives, hormone withdrawal tests for pregnancy, or attempted treatment for threatened abortion). Some of these exposures were very short and involved only a few days of treatment. The data suggest that the risk of limb reduction defects in exposed fetuses is somewhat less than 1 per 1,000. In the past, female sex hormones have been used during pregnancy in an attempt to treat threatened or habitual abortion. There is considerable evidence that estrogens are ineffective for these indications, and there is no evidence from well controlled studies that progestogens are effective for these uses. If PREMARIN is used during pregnancy, or if the patient becomes pregnant while taking this drug, she should be apprised of the potential risks to the fetus, and the advisability of pregnancy continuation.

DESCRIPTION: PREMARIN (conjugated estrogens, USP) contains a mixture of estrogens, obtained exclusively from natural sources, blended to represent the average composition of material derived from pregnant mares' urine. It contains estrone, equilin, and 17α-dihydroequilin, together with smaller amounts of 17α-estradiol, equilenin, and 17α-dihydroequilenin as salts of their sulfate esters. Tablets are available in 0.3 mg, 0.625 mg, 0.9 mg, 1.25 mg, and 2.5 mg strengths of conjugated estrogens. Cream is available as 0.625 mg conjugated estrogens per gram.

INDICATIONS AND USAGE: PREMARIN (conjugated estrogens tablets, USP): Moderate-to-severe *vasomotor* symptoms associated with the menopause. (There is no evidence that estrogens are effective for nervous symptoms or depression without associated vasomotor symptoms and they should not be used to treat such conditions.) **Osteoporosis (abnormally low bone mass).** Atrophic vaginitis. Kraurosis vulvae. Female castration.

PREMARIN (conjugated estrogens) Vaginal Cream is indicated in the treatment of atrophic vaginitis and kraurosis vulvae. PREMARIN HAS NOT BEEN SHOWN TO BE EFFECTIVE FOR ANY PURPOSE DURING PREGNANCY AND ITS USE MAY CAUSE SEVERE HARM TO THE FETUS (SEE BOXED WARNING).

Concomitant Progestin Use: The lowest effective dose appropriate for the specific indication should be utilized. Studies of the addition of a progestin for 7 or more days of a cycle of estrogen administration have reported a lowered incidence of endometrial hyperplasia. Morphological and biochemical studies of the endometrium suggest that 10 to 13 days of progestin are needed to provide maximal maturation of the endometrium and to eliminate any hyperplastic changes. Whether this will provide protection from endometrial carcinoma has not been clearly established. There are possible additional risks which may be associated with the inclusion of progestin in estrogen replacement regimens. (See PRECAUTIONS.) The choice of progestin and dosage may be important; product labeling should be reviewed to minimize possible adverse effects.

CONTRAINDICATIONS: Estrogens should not be used in women (or men) with any of the following conditions: 1. Known or suspected cancer of the breast except in appropriately selected patients being treated for metastatic disease. 2. Known or suspected estrogen-dependent neoplasia. 3. Known or suspected pregnancy (See Boxed Warning). 4. Undiagnosed abnormal genital bleeding. 5. Active thrombophlebitis or thromboembolic disorders. 6. A past history of thrombophlebitis, thrombosis, or thromboembolic disorders associated with previous estrogen use (except when used in treatment of breast or prostatic malignancy).

WARNINGS: Long-term continuous administration of natural and synthetic estrogens in certain animal species increases the frequency of carcinomas of the breast, cervix, vagina, and liver. There are now reports that estrogens increase the risk of carcinoma of the endometrium in humans. (See Boxed Warning.) At the present time there is no satisfactory evidence that estrogens given to postmenopausal women increase the risk of cancer of the breast, although a recent study has raised this possibility. There is a need for caution in prescribing estrogens for women with a strong family history of breast cancer or who have breast nodules, fibrocystic disease, or abnormal mammograms. A recent study has reported a 2- to 3-fold increase in the risk of surgically confirmed gallbladder disease in women receiving postmenopausal estrogens.

Adverse effects of oral contraceptives may be expected at the larger doses of estrogen used to treat prostatic or breast cancer or postpartum breast engorgement; it has been shown that there is an increased risk of thrombosis in men receiving estrogens for prostatic cancer and women for postpartum breast engorgement. Users of oral contraceptives have an increased risk of diseases, such as thrombophlebitis, pulmonary embolism, stroke, and myocardial infarction. Cases of retinal thrombosis, mesenteric thrombosis, and optic neuritis have been reported in oral contraceptive users. An increased risk of postsurgery thromboembolic complications has also been reported in users of oral contraceptives. If feasible, estrogen should be discontinued at least 4 weeks before surgery of the type associated with an increased risk of thromboembolism, or during periods of prolonged immobilization. Estrogens should not be used in persons with active thrombophlebitis, thromboembolic disorders, or in persons with a history of such disorders in association with estrogen use. They should be used with caution in patients with cerebral vascular or coronary artery disease. Large doses (5 mg conjugated estrogens per day), comparable to those used to treat cancer of the prostate and breast, have been shown to increase the risk of nonfatal myocardial infarction, pulmonary embolism and thrombophlebitis. When doses of this size are used, any of the thromboembolic and thrombotic adverse effects should be considered a clear risk.

Benign hepatic adenomas should be considered in estrogen users having abdominal pain and tenderness, abdominal mass, or hypovolemic shock. Hepatocellular carcinoma has been reported in women taking estrogen-containing oral contraceptives. Increased blood pressure may occur with use of estrogens in the menopause and blood pressure should be monitored with estrogen use. A worsening of glucose tolerance has been observed in patients on estrogen-containing oral contraceptives. For this reason, diabetic patients should be carefully observed. Estrogens may lead to severe hypercalcemia in patients with breast cancer and bone metastases.

PRECAUTIONS: Physical examination and a complete medical and family history should be taken prior to the initiation of any estrogen therapy with special reference to blood pressure, breasts, abdomen, and pelvic organs, and should include a Papanicolaou smear. As a general rule, estrogen should not be prescribed for longer than one year without another physical examination being performed. Conditions influenced by fluid retention such as asthma, epilepsy, migraine, and cardiac or renal dysfunction, require careful observation. Certain patients may develop manifestations of excessive estrogenic stimulation, such as abnormal or excessive uterine bleeding, mastodynia, etc. Prolonged administration of unopposed estrogen therapy has been reported to increase the risk of endometrial hyperplasia in some patients. Oral contraceptives appear to be associated with an increased incidence of mental depression. Patients with a history of depression should be carefully observed. Preexisting uterine leiomyomata may increase in size during estrogen use. The pathologist should be advised of estrogen therapy when relevant specimens are submitted. If jaundice develops in any patient receiving estrogen, the medication should be discontinued while the cause is investigated. Estrogens should be used with care in patients with impaired liver function, renal insufficiency, metabolic bone diseases associated with hypercalcemia, or in young patients in whom bone growth is not complete. If concomitant progestin therapy is used, potential risks may include adverse effects on carbohydrate and lipid metabolism.

The following changes may be expected with larger doses of estrogen:

a. Increased sulfobromophthalein retention.

b. Increased prothrombin and factors VII, VIII, IX, and X; decreased antithrombin 3; increased norepinephrine-induced platelet aggregability.

c. Increased thyroid binding globulin (TBG) leading to increased circulating total thyroid hormone, as measured by PBI, T4 by column, or T4 by radioimmunoassay. Free T3 resin uptake is decreased, reflecting the elevated TBG; free T4 concentration is unaltered.

d. Impaired glucose tolerance.

e. Decreased pregnanediol excretion.

f. Reduced response to metyrapone test.

g Reduced serum folate concentration.

h. Increased serum triglyceride and phospholipid concentration. As a general principle, the administration of any drug to nursing mothers should be done only when clearly necessary since many drugs are excreted in human milk.

ADVERSE REACTIONS: The following have been reported with estrogenic therapy, including oral contraceptives: breakthrough bleeding, spotting, change in menstrual flow; dysmenorrhea; premenstrual-like syndrome; amenorrhea during and after treatment; increase in size of uterine fibromyomata; vaginal candidiasis, change in cervical erosion and in degree of cervical secretion; cystitis-like syndrome; tenderness, enlargement, secretion (of breasts); nausea, vomiting, abdominal cramps, bloating; cholestatic jaundice; chloasma or melasma which may persist when drug is discontinued; erythema multiforme; erythema nodosum; hemorrhagic eruption; loss of scalp hair; hirsutism; steepening of corneal curvature; intolerance to contact lenses; headache, migraine, dizziness, mental depression, chorea; increase or decrease in weight; reduced carbohydrate tolerance; aggravation of porphyria; edema; changes in libido.

ACUTE OVERDOSAGE: May cause nausea, and withdrawal bleeding may occur in females.

DOSAGE AND ADMINISTRATION:

PREMARIN® Brand of conjugated estrogens tablets, USP

1. *Given cyclically for short-term use only.* For treatment of moderate to severe *vasomotor* symptoms, atrophic vaginitis, or kraurosis vulvae associated with the menopause (0.3 to 1.25 mg or more daily). The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible. Administration should be cyclic (eg, three weeks on and one week off). Attempts to discontinue or taper medication should be made at three- to six-month intervals.

2. *Given cyclically:* Female castration. Osteoporosis. Female castration—1.25 mg daily, cyclically. Adjust upward or downward according to response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control. Osteoporosis —0.625 mg daily. Administration should be cyclic (eg, three weeks on and one week off).

Patients with an intact uterus should be monitored for signs of endometrial cancer and appropriate measures taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

PREMARIN® Brand of conjugated estrogens Vaginal Cream

Given cyclically for short-term use only. For treatment of atrophic vaginitis or kraurosis vulvae.

The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible.

Administration should be cyclic (eg, three weeks on and one week off).

Attempts to discontinue or taper medication should be made at three-to-six month intervals.

Usual dosage range: 2 to 4 g daily, intravaginally, depending on the severity of the condition.

Treated patients with an intact uterus should be monitored closely for signs of endometrial cancer and appropriate diagnostic measures should be taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

References:

1. Whitehead MI, Townsend PT, Pryse-Davies J, et al: Effects of estrogens and progestins on the biochemistry and morphology of the postmenopausal endometrium. *N Engl J Med* 1981;305:1599-1605 **2.** Paterson MEL, Wade-Evans T, Sturdee DW, et al: Endometrial disease after treatment with oestrogens and progestogens in the climacteric. *Br Med J* 1980;280:822-824. **3.** Magos AL, Brincat M, Studd JWW, et al: Amenorrhea and endometrial atrophy with continuous oral estrogen and progestogen therapy in postmenopausal women. *Obstet Gynecol* 1985; 67: 496-499. **4.** Whitehead MI, Lane G, Siddle N, et al: Avoidance of endometrial hyperstimulation in estrogen-treated postmenopausal women. *Semin Reprod Endocrinol* 1983;1:1;41-52. **5.** Barnes RB, Roy S, Lobo RA: Comparison of lipid and androgen levels after conjugated estrogen or depo-medroxyprogesterone acetate treatment in postmenopausal women. *Obstet Gynecol* 1985;66:216-219.

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OFFICIAL CALL
HOUSE OF DELEGATES

HOUSE OF DELEGATES
Meetings Scheduled

Notice to: Delegates, Alternate Delegates, Officials of the North Carolina Medical Society, and Presidents and Secretaries of county medical societies.

Sessions of the HOUSE OF DELEGATES will convene in the Cardinal Ballroom, Pinehurst Hotel, Pinehurst, North Carolina, at the following times:

Thursday, April 30, 1987 — 9:30 a.m. — Opening Session
Saturday, May 2, 1987 — 2:00 p.m. — Second Session

A member of the CREDENTIALS COMMITTEE will be present at the Desk in the West Lobby, Wednesday, April 29, 1987, 3:00 p.m. to 5:00 p.m., and Thursday, April 30, 1987, 8:30 a.m. to 10:00 a.m. to certify Delegates. Delegates are urged to bring their Credential Cards for presentation at the Registration Desk. Delegate Badges must be worn to be seated in the HOUSE OF DELEGATES.

REFERENCE COMMITTEE HEARINGS

Reference Committee hearings are scheduled to begin Thursday, April 30, 1987, at 2:00 p.m.

JOHN W. FOUST, M.D., President
HENRY J. CARR, JR., M.D., President-Elect
T. REGINALD HARRIS, M.D., Speaker
JOHN A. FAGG, M.D., Vice-Speaker
JOHN T. DEES, M.D., Secretary
GEORGE E. MOORE, Executive Vice-President

In Memoriam

Angus Murdoch McBryde, M.D.

Angus Murdoch McBryde was born in Raeford, North Carolina May 25, 1902 and died unexpectedly in Durham September 16, 1986 while visiting a friend. He was graduated from Davidson College in 1924 and the University of Pennsylvania School of Medicine in 1928. His residency was served at the University of Pennsylvania and Johns Hopkins. He came to Duke University School of Medicine in early 1931 and was a member of the original pediatric faculty at the newly founded medical school where his chief interest was neonatology. He started the Special Care Nursery. His contributions there have been recognized by the annual Angus M. McBryde Perinatal Symposium for the past thirty-one years, the Kenan-McBryde endowed Fellowship in neonatology, and the distinguished Medical Alumni award for excellence in teaching. He retired from Duke in 1972.

In 1935 he started a private practice of pediatrics in Durham combining that work with his active faculty work at Duke. In 1949 he was joined by Dr. Bailey Webb and later by Drs. Clarence Bailey and Jean Findlay. He retired from both in 1981. He was past president of the Durham-Orange County Medical Society and North Carolina Pediatric Society, and was a member of the American Medical Association, North Carolina Medical Society, American Academy of Pediatricians and Society for Pediatric Research.

He was an active member of the Kiwanis Club for fifty years. A devout member of St. Phillips Episcopal Church, he served as senior warden and on the vestry on numerous occasions. He was very active in the establishment of the soup kitchen and the building of the Urban Ministries facility. After retirement, he and his wife, Priscilla Gregory McBryde, served as Co-Chairman of the Durham Historic Preservation Society. An avid sports fan, he enjoyed playing golf until his death. He was a devoted husband and father and a man of many friends. In 1975 he was named a Father of the Year in Durham.

Quoting Dr. Lenox Baker in the *Durham Morning Herald,* "Dr. McBryde as a man could stand out in a crowd without being conspicuous. He exuded a certain presence: knowledge of medicine, care for his students and especially his patients and a variety of interests.

"What interested him most though were people. He had a large heart for helping others, whether through medicine or community service —

"Today's generation of doctors and students at Duke can look back on the career of Dr. McBryde and say, as Sir Isaac Newton did, that they see far afield because they stood on the shoulder of giants. He was one."

He is survived by his wife, three children, Dr. Angus M. McBryde, Jr., Neill Gregory McBryde, Mrs. James T. Spence, III and ten grandchildren.

Walter J. Loehr, M.D.
President
Durham-Orange County Medical Society

Perry Belton Clark, M.D.

Perry Clark burned as brightly as it was possible for a person to burn. He was a devoted and loving husband and father, a highly skilled physician with consummate compassion, and an understanding and giving friend.

Perry Clark died on Sunday, November 30, 1986 at Forsyth Memorial Hospital where he had been since suffering a massive cerebral hemorrhage while jogging on November 27, 1986. Perry was born on April 30, 1939 in Louisville, Kentucky to Robert F. and Louise P. Clark. He grew up in Louisville and graduated college at Princeton University. He returned to the University of Kentucky Medical School where he received his M.D. and then served his internship at UCLA. Perry then came to Winston-Salem and did his training in obstetrics and gynecology at North Carolina Baptist Hospital and Bowman Gray School of Medicine. He finished this residency in 1972 and joined the Lyndhurst Gynecologic Associates and had practiced as a member of that group throughout his career.

Perry was a dynamic member of the Lutheran Church of the Epiphany and was also a member of Old Town Club and the downtown Rotary Club. He was a tireless worker and a major force in the Planned Parenthood organization in this area and was largely responsible for the successful fund raising efforts for this organization. We all remember the tenacity of his fund raising and promotional efforts.

During this past year Perry was taking part in the Leadership Winston-Salem activities and at the time of his death was about to be named President Elect of the Forsyth County Medical Society. Perry had devoted a great deal of time over the past several years working on public relations for the Medical Society because he was concerned about the public image of physicians in Winston-Salem.

This great bear of a man affected and inspired all of us. He faced setbacks which would have subdued a lesser being and came back driving even harder. None of us will forget his contagious laugh, his often moist eyes triggered by the real stuff of life, his unconditional love for people from all walks of life, and his innate compassion and nurturing for those in pain and doubt.

It is now our job to continue, and keep alive, what Perry Clark represented.

Forsyth-Stokes-Davie County Medical Society

Ray Donald Minges, M.D.

On August 15, 1920, in Catawba County, N.C., Ray Donald Minges entered this world. His family subsequently moved to Greenville where, with his parents, brothers and sister, he helped build the Pepsi-Cola Company in this area by working before and after school hours. Following grad-

uation from high school, he entered and was graduated from Davidson College in 1941. In 1944 he was graduated from the Medical College of Virginia Commonwealth University School of Medicine. Ray's post graduate training included an Internship and first year Residency in General Surgery at Johnson-Willis Hospital in Richmond, Virginia. From 1946 to 1948 he served as a Medical Officer with the U.S. Army in Alaska and the Aleutian Islands. From 1948 to 1950 he returned to Johnson-Willis Hospital and served as a Resident in Internal Medicine. From July 1950 through September 1953 he completed his training in General Surgery at the Medical College of Virginia Hospital. Upon his return to Greenville he entered into the practice of General Surgery until his retirement in 1970.

Dr. Minges was one of the first to usher in the era of specialization in practice in Eastern North Carolina. He was active in the Pitt County Medical Society and served as Chief of Staff at Pitt County Memorial Hospital. Ray was a strong supporter of the continued development of medicine and medical services in this area.

As a physician, Ray exhibited a sincere interest in the care and well-being of his patients. On many occasions, he impressed us with his deep thought and thorough consideration of all possible diagnoses prior to performing surgery on a patient — a quality, I like to think, he acquired as a resident in Internal Medicine. He was an excellent surgeon and physician, who knew his limitations and had no reservations about recommending that a better qualified colleague manage any patient beyond his capabilities. He was always the first to admit any error in judgment.

As a person, Dr. Minges freely gave of his time, knowledge, energy, and money to innumerable projects in the Greenville Community. Ray had the ability to recognize promise in young people and on many occasions made financial assurance that they were able to receive a college education. Ray had an abiding faith and trust in his God which provided him with an immense inner strength. It was this faith and strength that enabled him to endure several personal tragedies in his life, and face the inevitable with courage and inner peace. His spectrum of friends was wide and reflected his interest in education, hunting, sports, church and community. He was known to one and all as Ray.

Dr. Minges viewed death as he did graduation — not an end but a beginning. On January 19, 1987, Ray departed this life to join his daughter Barbara and son Donald who had preceded him.

Mrs. Virginia Minges has lost a loving husband; Tom, Pat and Ginger have lost an adoring father; the Community has lost a magnanimous benefactor; East Carolina University has lost a tireless supporter and fund raiser; Medicine has lost a sensitive and caring physician; and those of us who knew Dr. Ray Minges have lost a close and trusted friend.

If Ray had the opportunity to leave us collectively any parting comments, I believe he would say "Do not despair over my death, but rejoice in the life I had with you."

Eric Fearrington, M.D.
Pitt County Medical Society

Our journal has a new look . . .

We thank the NCMJ Editorial Board, editorial assistant Jane Whalen, and our printer The Ovid Bell Press, Inc., for their contributions.

The Editor and Managing Editor

Dear Colleague:

I am preparing to release to the public an STD profile including HTLV-III antibodies, Hepatitis B Surface Antigen, Chlamydia IFA antibodies, and Syphilis RPR. This profile will be known as AIDCARD™ and will cost $60. Western Blot will be done on all positive HTLV-III tests and FTA on all positive RPR. These will be done by a highly reputable and licensed and certified reference laboratory located in North Carolina.

The positive tests will generate a group of concerned citizens who will be seeking your evaluation of the meaning of those positive tests. We recognize that the chlamydia antibody test will be positive in a large number of people who are not infectious. We decided to make this a part of the profile because it would identify a group at risk and bring these people to you for a proper search for other STD's. If you evaluate these people and find that they are not contagious and will write us to that effect, we will issue them an AIDCARD™.

People with AIDCARD™ kits may be seeking you out as a reliable person to do their phlebotomy. They should bring you a separator tube and mailer. 10cc's of blood should be placed in the red-top tube and allowed to clot for 20 minutes and then centrifuged for 10 minutes at RCF 1000 G. We have suggested a $3 to $5 laboratory fee as being appropriate. These instructions come with each kit.

We have made extensive and detailed preparations to protect the absolute privacy of those persons submitting blood samples. We want you to understand how our system works. Therefore, we're offering a test for you and one other person of your choosing for $100 (or one test for $50). Send cash, check or money order to AIDCARD™ INTERNATIONAL in care of me at the address below, or you may phone a Mastercard or Visa order to 1-919-663-2931. You may order kits for your patients at the public price of $60. You may wish to encourage your hospital and the dentists in your community to do likewise. We are one of the groups at risk from unknown carriers.

There are limitations and shortcomings to this undertaking, the primary ones being those trade-offs between our public-health desire for case finding and the individual's right to privacy. Any way you can help to resolve these dilemmas with each individual will be a great service. Any suggestions for improvement in our program will receive careful attention. Your support, both publicly and privately, will be greatly appreciated. We expect such a profile to represent the standard of care at least for anyone with STD signs or symptoms.

John R. Dykers, Jr., M.D.
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 * *Many of the Editor's colleagues oppose publication of this ad. For this point of view, see letter to the Editor, pp. 226-7.*

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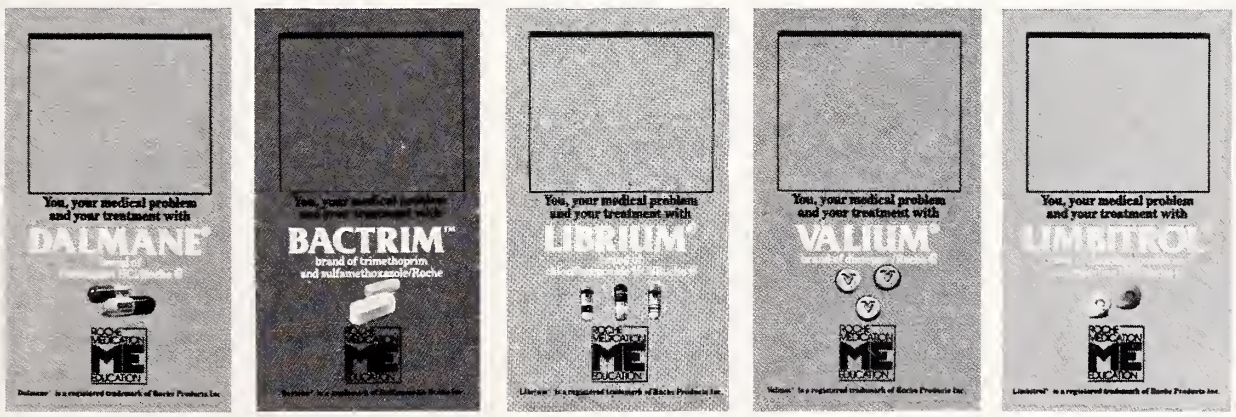
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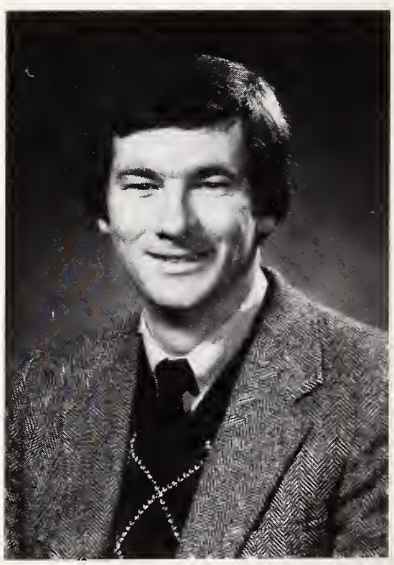
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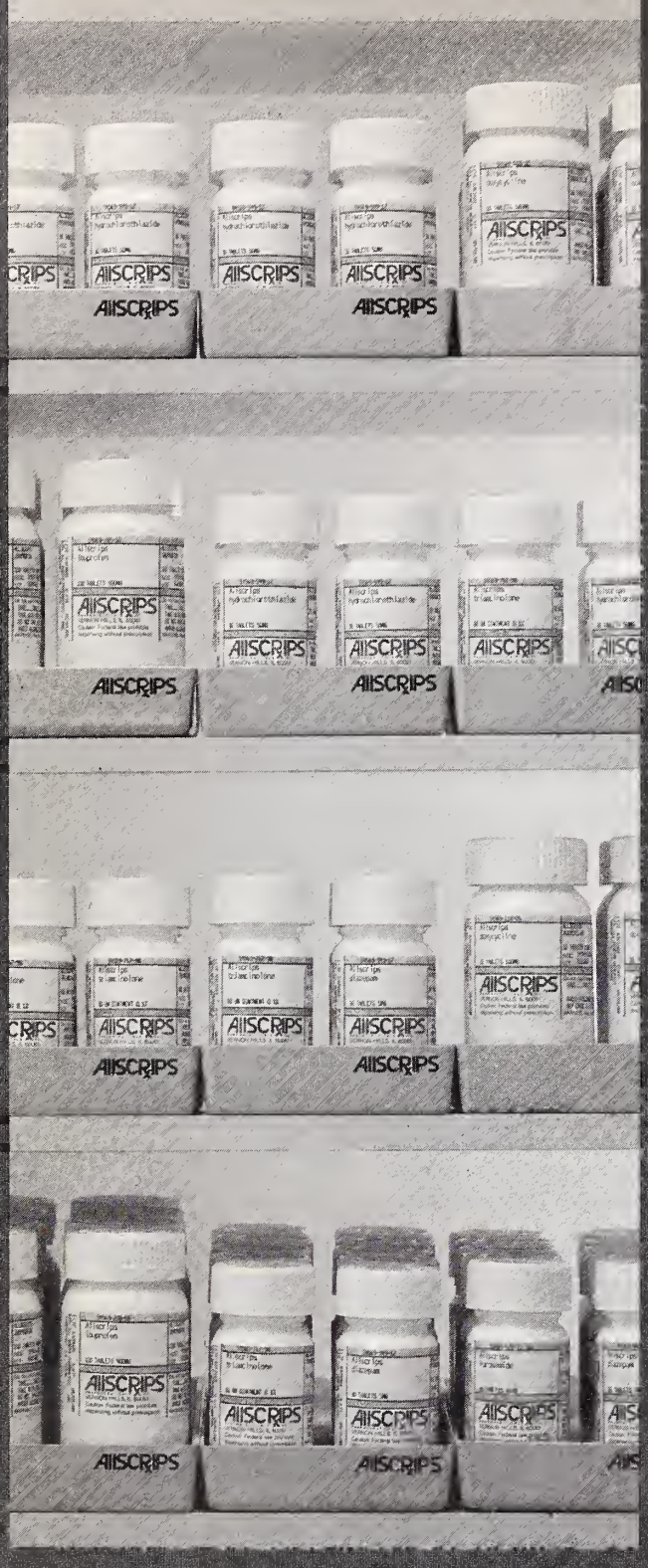
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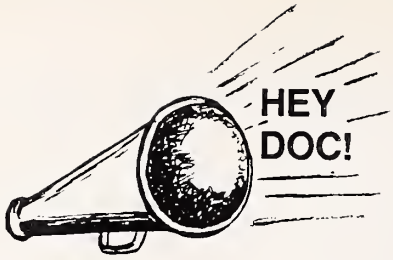
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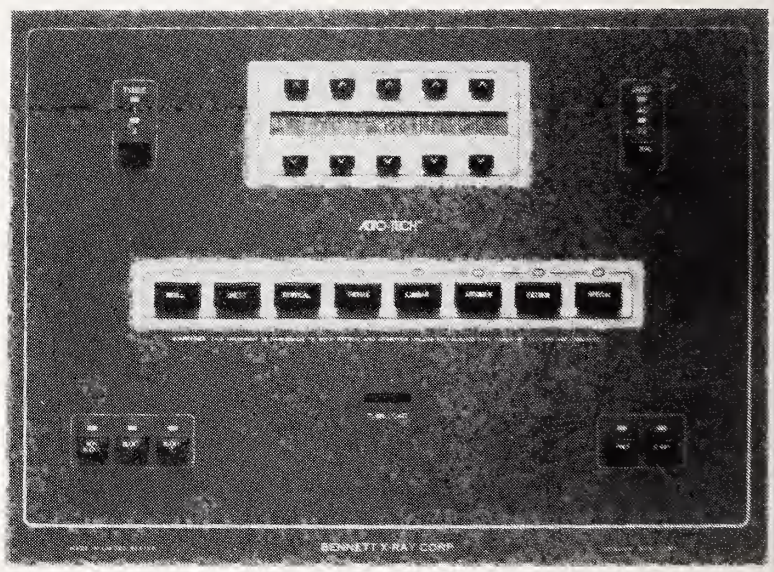
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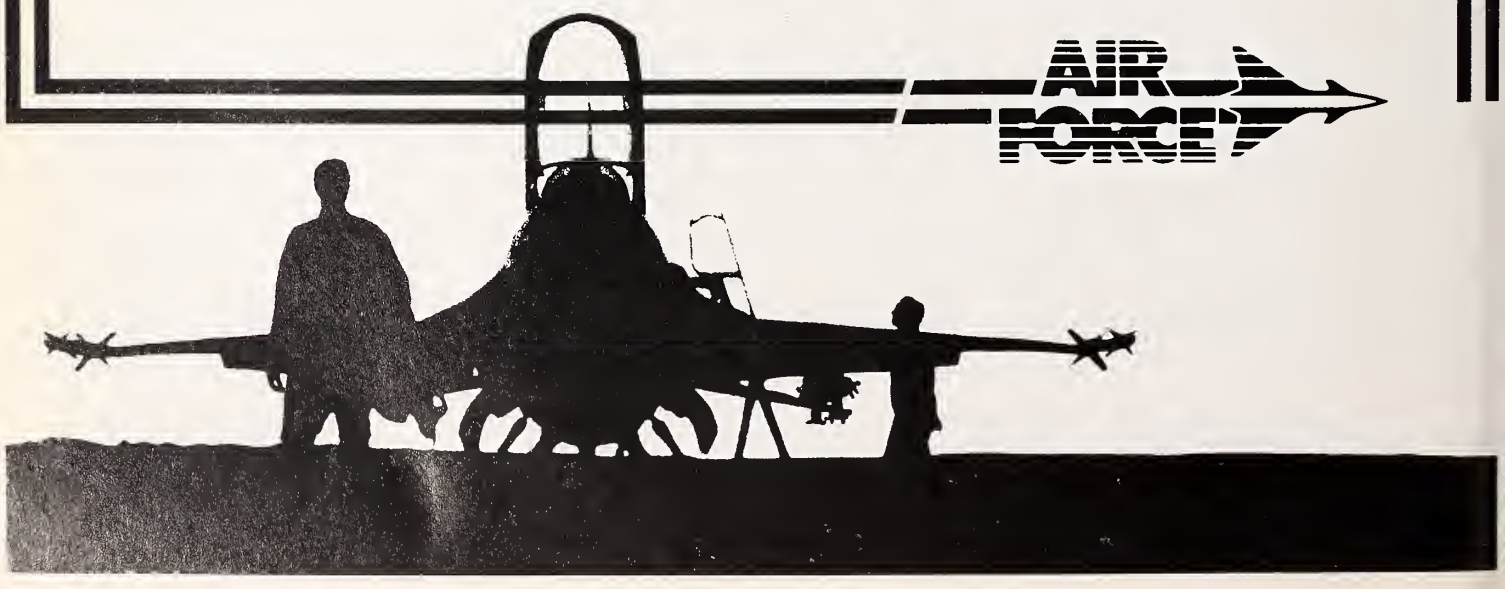
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INDERAL LA Capsules (60, 80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL Tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg-for-mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension; it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

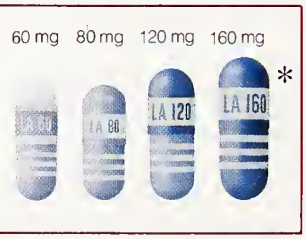
CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock, 2) sinus bradycardia and greater than first-degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

ONCE-DAILY

INDERAL® LA

(PROPRANOLOL HCl)

LONG ACTING CAPSULES



WARNINGS. CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following *abrupt* discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned, the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, eg, dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta blockers should be used with caution in diabetic patients if a beta-blocking agent is required. Beta blockers may mask tachycardia occurring with hypoglycemia, but other manifestations such as dizziness and sweating may not be significantly affected. Following insulin-induced hypoglycemia, propranolol may cause a delay in the recovery of blood glucose to normal levels.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol may change thyroid function tests, increasing T_4 and reverse T_3, and decreasing T_3.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case, this resulted after an initial dose of 5 mg propranolol.

PRECAUTIONS. GENERAL: Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

CLINICAL LABORATORY TESTS: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Caution should be exercised when patients receiving a beta blocker are administered a calcium-channel-blocking drug, especially intravenous verapamil, for both agents may depress myocardial contractility or atrioventricular conduction. On rare occasions, the concomitant intravenous use of a beta blocker and verapamil has resulted in serious adverse reactions, especially in patients with severe cardiomyopathy, congestive heart failure or recent myocardial infarction.

Aluminum hydroxide gel greatly reduces intestinal absorption of propranolol.

Ethanol slows the rate of absorption of propranolol.

Phenytoin, phenobarbitone, and *rifampin* accelerate propranolol clearance.

Chlorpromazine, when used concomitantly with propranolol, results in increased plasma levels of both drugs.

Antipyrine and *lidocaine* have reduced clearance when used concomitantly with propranolol.

Thyroxine may result in a lower than expected T_3 concentration when used concomitantly with propranolol.

Cimetidine decreases the hepatic metabolism of propranolol, delaying elimination and increasing blood levels.

Theophylline clearance is reduced when used concomitantly with propranolol.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY. Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

PREGNANCY: Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose. There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

NURSING MOTHERS: INDERAL is excreted in human milk. Caution should be exercised when INDERAL (propranolol HCl) is administered to a nursing woman.

PEDIATRIC USE: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: Bradycardia; congestive heart failure; intensification of AV block; hypotension; paresthesia of hands; thrombocytopenic purpura; arterial insufficiency, usually of the Raynaud type.

Central Nervous System. Light-headedness; mental depression manifested by insomnia, lassitude, weakness, fatigue; reversible mental depression progressing to catatonia; visual disturbances; hallucinations; vivid dreams; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics. For immediate formulations, fatigue, lethargy, and vivid dreams appear dose related.

Gastrointestinal: Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: Pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory: Bronchospasm.

Hematologic: Agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: Alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily. If patients are switched from INDERAL Tablets to INDERAL LA Capsules, care should be taken to assure that the desired therapeutic effect is maintained. INDERAL LA should not be considered a simple mg-for-mg substitute for INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitration may be necessary, especially to maintain effectiveness at the end of the 24-hour dosing interval.

HYPERTENSION—*Dosage must be individualized.* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood-pressure control is achieved. The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage of 640 mg may be required. The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three- to seven-day intervals until optimal response is obtained. Although individual patients may respond at any dosage level, the average optimal dosage appears to be 160 mg once daily. In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

MIGRAINE—*Dosage must be individualized.* The initial oral dose is 80 mg INDERAL LA once daily. The usual effective dose range is 160-240 mg once daily. The dosage may be increased gradually to achieve optimal migraine prophylaxis. If a satisfactory response is not obtained within four to six weeks after reaching the maximal dose, INDERAL LA therapy should be discontinued. It may be advisable to withdraw the drug gradually over a period of several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use.

*The appearance of these capsules is a registered trademark of Ayerst Laboratories.

REFERENCES:

1. INDERAL LA National Compliance Evaluation Program. Data on file, Ayerst Laboratories.
2. Ravid M, Lang R, Jutrin I: The relative antihypertensive potency of propranolol, oxprenolol atenolol, and metoprolol given once daily. *Arch Intern Med* 1985; 145:1321-1323.

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Percutaneous Balloon Valvuloplasty of Calcific Aortic Stenosis

Charles J. Davidson, M.D., Thomas N. Skelton, M.D., Katherine Kisslo, R.D.M.S., Robert H. Peter, M.D., Charles Simonton, M.D., Harry Phillips, M.D., Victor S. Behar, M.D., Yihong Kong, M.D., Thomas M. Bashore, M.D.

Percutaneous balloon valvuloplasty has been reported effective in the treatment of pulmonary stenosis,[1,2] mitral stenosis,[3-5] aortic coarctation,[6] and congenital aortic stenosis.[7] Percutaneous transluminal coronary angioplasty is now firmly established as an effective treatment of coronary and peripheral artery stenoses. Several recent studies have described successful percutaneous balloon valvuloplasty in symptomatic patients with severe calcific aortic stenosis who were deemed poor surgical candidates or who refused surgical intervention.[8-11] These encouraging early reports suggest that percutaneous balloon valvuloplasty may be a viable alternative to aortic valve replacement in selected patients with critical calcific aortic stenosis.

This report outlines our initial experience with this technique. Each patient was considered at high surgical risk due to advanced age or other underlying medical conditions. Table I outlines the baseline demographic and relevant angiographic data in each patient. Procedures and results follow after the four case descriptions.

Table 1

Baseline demographic and angiographic parameters prior to valvuloplasty.

Patient	*Age (Yrs)*	*Sex*	*Symptoms*	*Coronary Anatomy*	*AI*	*Other Valvular Disease*
1	72	F	CHF	Insignif.	1+	MS
2	85	M	CHF, Syncope	1 VD	1+	None
3	89	F	CHF, Angina	3 VD, CABG	1+	MR
4	65	M	CHF	2 VD	1+	MR

CHF: Congestive heart failure; Insignif.: Insignificant coronary artery disease; 1-3VD: One, two, or three vessel coronary; CABG: Prior coronary artery bypass surgery; AI: Aortic insufficiency; MS: Mitral stenosis; MR: Mitral regurgitation.

Case 1

A 72-year-old woman was transferred from an outside community hospital for evaluation of newly diagnosed aortic stenosis associated with bradycardia. The patient had a long-standing history of asthmatic bronchitis and significant essential hypertension. These conditions had been chronically treated with hydralazine, oral steroids, and methylxanthines. In addition, the patient had a history of mild renal insufficiency and a two-year historty of progressive deterioration in her mental status deemed secondary to multi-infarct dementia.

In October 1986, she complained of increased weakness and fatigue, particularly on exertion, that increased over the next three to four weeks. She was hospitalized by her local physician who noted a cardiac murmur consistent with aortic stenosis and significant bradycardia. Because it was difficult to delineate whether the new onset of malaise, fatigue, and dyspnea on exertion were secondary to her chronic pulmonary disease or due to significant aortic stenosis, she was transferred for cardiac evaluation.

Physical examination was remarkable for jugular venous pulsations which revealed intermittent canon A-waves without significant jugular venous distention. Mild hepatojugular reflux was present. Carotid exam demonstrated a relatively normal upstroke and bilateral bruits. Cardiac exam revealed a palpable pulmonary outflow and a systolic thrill along the second left intercostal margin. The apex was readily palpable and slightly displaced laterally. On auscultation a grade IV/VI systolic ejection murmur was appreciated and a grade I/VI murmur consistent with aortic insufficiency.

From the Department of Medicine, Division of Cardiology, Duke University Medical Center, Durham 27710. Reprints: Thomas M. Bashore, M.D., Box 3012, Duke University Medical Center, Durham 27710.

A grade II/VI mitral insufficiency murmur was auscultated at the apex.

The chest x-ray revealed mild cardiomegaly, a markedly tortuous aorta, and evidence of mitral anular, aortic valvular and coronary calcification. The patient underwent a two-dimensional echocardiogram which showed evidence of left ventricular hypertrophy, normal left ventricular function, marked anular calcification, and suspected invasion of the mitral valve by calcium. The aortic valve was immobile and markedly thickened. The aortic root was mildly dilated. An 85 mmHg peak aortic valve gradient was estimated by Doppler along with mild aortic and mitral insufficiency, and evidence suggestive of mitral stenosis.

After careful consultation with the attending physicians regarding her risks of surgical intervention for aortic valve and, potentially, mitral valve replacement, it was decided that she was not a surgical candidate due to her age, dementia, essential hypertension, and chronic asthma. As an alternative, it was suggested that the patient undergo aortic valvuloplasty, which was undertaken with the patient's and family's informed consent.

Case 2

An 85-year-old man first had an aortic murmur diagnosed 30 years ago. During the summer of 1986, the patient had two episodes of exertional syncope. That November he developed increasing dyspnea on exertion as well as fatigue and dependent edema, including one episode of presyncope associated with dyspnea. A chest radiograph performed at a local hospital demonstrated findings consistent with congestive heart failure and left ventricular enlargement. Subsequently he was referred for further evaluation.

Physical examination was remarkable for jugular venous distention, delayed carotid upstroke, bibasilar rales, grade III/VI late peaking systolic murmur at the base radiating to the carotids and apex, an absent A2, and 2+ pitting edema below the knee. The electrocardiogram demonstrated atrial fibrillation with a moderate ventricular response and left ventricular hypertrophy with repolarization changes. The echocardiogram demonstrated normal left ventricular function, left ventricular hypertrophy, and a thickened immobile aortic valve. A Doppler examination revealed a 64 mmHg peak systolic aortic gradient and mild aortic insufficiency.

A cardiac catheterization was performed, which confirmed the diagnosis of severe degenerative calcific aortic stenosis (table 1). Due to his advanced age, the patient was considered at high surgical risk for aortic valve replacement. Aortic valvuloplasty was offered as an alternative.

Case 3

A 79-year-old woman had aortic stenosis diagnosed on routine exam at age 50. Due to progressive angina, she underwent coronary artery bypass surgery in September 1982, with a single vein graft placed to the distal right coronary artery and a sequential graft to the left anterior descending, anterolateral, and obtuse marginal arteries. Her aortic stenosis was considered moderate at that time. A VVI pacemaker was implanted in 1981 for symptomatic brady arrhythmias. Within the last six months, she developed progressive New York Heart Association functional class III angina and functional class III congestive heart failure. A recent diagnostic cardiac catheterization performed at another hospital demonstrated three-vessel coronary artery disease, widely patent grafts, and severe calcific aortic stenosis. Because of the patient's age and prior surgery, the patient was referred for further evaluation and possible catheter balloon valvuloplasty.

Physical examination on admission was remarkable for delayed carotic upstroke and bilateral carotid bruits. A grade III/VI late peaking systolic murmur at the aortic area, radiating to the neck, and markedly diminished A2 were auscultated. The electrocardiogram revealed 100% ventricular pacing. Cardiomegaly, predominantly left-sided, with congestive heart failure and interstitial edema were present on chest radiograph. Two-dimensional echocardiogram revealed aortic valve disease with severe aortic stenosis and a hypocontractile left ventricle. Doppler echocardiogram predicted a 64 mmHg peak gradient, a calculated mean gradient of 43 mmHg, and aortic valve area of 0.6 cm^2, mild mitral regurgitation, mild aortic insufficiency, and mild tricuspid regurgitation.

Case 4

A 65-year-old man had a history of a heart murmur dating back to World War II. In 1973 he was documented to have a myocardial infarction, and in 1983 he underwent permanent transvenous DDD pacemaker placement for complete heart block. Within the past several years he has had increasing symptoms of congestive heart failure, including progressive dyspnea on exertion, shortness of breath, and orthopnea. A catheterization two years prior revealed two vessel coronary artery disease with a totally occluded right coronary artery and a 75% stenosis in the proximal left anterior descending artery. Calcific aortic stenosis was noted with a calculated valve area of 0.5 cm^2, left ventricular ejection fraction of 21%, and 3+ mitral regurgitation. Considered an extremely high risk surgical candidate, he was referred for aortic valvuloplasty.

Physical examination was remarkable for slow carotid upstroke and small pulse amplitude. Jugular venous pressure was markedly increased. Bibasilar rales and both a left and a right ventricular heave were present. There was an aortic midsystolic murmur which transmitted faintly to the carotids, an S3, and no A2 present. Extremities revealed 2+ edema bilaterally. Electrocardiogram was AV sequentially paced. Chest radiograph showed interstitial edema and

marked cardiomegaly. The echocardiogram demonstrated a severely dilated and hypocontractile left ventricle with thickened and immobile aortic valve. The Doppler estimated a 56 mmHg peak systolic gradient, mild aortic insufficiency, and mild tricuspid insufficiency.

Catheterization Procedure

Each patient was premedicated with diphenhydramine HCL prior to the procedure, then with 3,000-6,000 units of intravenous Heparin after venous and arterial accesses were achieved. Right heart catheterization was performed via the left femoral vein with a #7F balloon tip flotation catheter (Critikon[R]). A #7F pigtail catheter was inserted through the left femoral artery and advanced to the descending aorta. Measurements were made of pulmonary artery, pulmonary capillary wedge, and aortic pressures. Oxygen consumption was measured with a metabolic cart (Beckman Sensormedics) as simultaneous aortic and pulmonary artery oxygen saturation and contents were obtained. Cardiac outputs were calculated by the Fick method in three patients and by thermodilution in one patient both before and after valvuloplasty.

Left heart catheterization was performed via the right femoral artery. A #7F right coronary catheter was placed through a #8F sheath and 175 cm, 0.038 inch straight-tipped guide wire was used to cross the aortic valve retrograde. After entrance into the left ventricle, a #7F Pigtail Millar[R] (two patients) or #7F pigtail catheter (two patients) was exchanged over a 260 cm J tipped guide-wire. Simultaneous left ventricular, supravalvular aortic and femoral artery pressures were recorded. Aortic valve area was calculated using the Gorlin formula, and peak-to-peak, mean, and peak instantaneous gradient were measured. Computerized digital left ventriculography and ascending root aortography were performed prior to and immediately after valvuloplasty.

Aortic Valvuloplasty Procedure

The pigtail catheter was removed over a 260 cm guide wire, and in patients two, three and four a #14F percutaneous sheath (Universal Medical Instrument Group) was placed in the right femoral artery, replacing the #8F sheath. Placement of a larger sheath permitted insertion of the valvuloplasty balloon and allowed postvalvuloplasty catheter exchanges to be accomplished without significant bleeding. The #9F 20 mm valvuloplasty balloon (Mansfield Inc.) was positioned across the aortic valve utilizing radiopaque markers on the catheter. Three inflations were made with a mixture of saline and contrast medium by hand injection. In all four patients a waist in the balloon was seen to appear at the level of aortic valve and to disappear during further balloon inflation (figure 1). All three balloon inflations in each patient lasted 10-20 seconds and were viewed by either fluoroscopy or two-dimensional echocardiography.

The simultaneous electrocardiogram and aortic pressure were recorded during all inflations. Following the final dilatation, repeat pulmonary capillary wedge, aortic, and left ventricular pressures were obtained. Oxygen consumption, pulmonary artery and aortic oxygen contents and saturations were also measured, and repeat cardiac output and aortic valve area were recalculated.

Results

All four patients demonstrated successful improvement in hemodynamics following percutaneous aortic valvuloplasty, as evidenced by an immediate reduction in mean aortic gradient and peak left ventricular to peak aortic pressure, with a concomitant increase in aortic valve area (table 2, next page). For the group as a whole, mean aortic gradient and peak aortic to peak left ventricular pressure fell by a mean of 30% and 32%, respectively; aortic valve area rose by 50%. A representative example of the improvement in

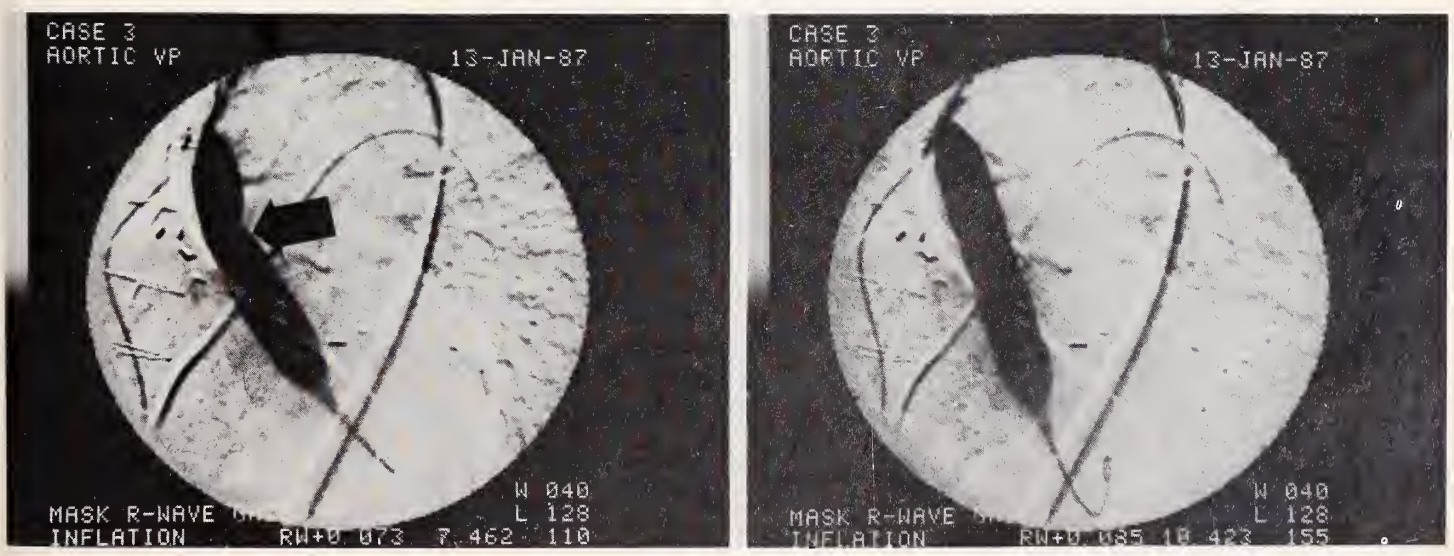


Figure 1. 20 mm diameter balloon filled with mixture of contrast and saline positioned across the aortic valve. The waist (arrow) is seen to disappear with full inflation (right).

Table 2

Hemodynamics, ventriculography, and congestive heart failure symptomatology before and after aortic valvuloplasty.

Patient	LV Peak Sys. Press. (mmHg)		Peak Ao Pressure (mmHg)		LV/Ao Peak-to-Peak (mmHg)		LV/Ao Mean Gradient (mmHg)		AVA (cm^2)		LVEF (%)		Mean PA (mmHg)		PCWP (mmHg)		C.O. L/min		CHF FC	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	290	223	235	195	55	28	66	40	0.6	0.8	56	66	33	26	21	21	4.1	4.0	II	II
2	199	213	165	185	34	28	44	31	0.8	1.3	72	68	28	40	20	25	5.0	5.3	III	II
3	183	180	130	135	53	45	39	34	0.6	0.8	50	55	26	17	17	11	3.3	5.4	III	II
4	118	115	93	93	33	21	21	16	0.4	0.6	13	16	52	42	56	42	2.1	2.3	IV	II
Mean	197	183	156	152	44	30	43	30	0.6	0.9	48	51	35	31	29	25	3.6	4.3		
±SD	±71	±49	±61	±47	±12	±10	±19	±10	±0.2	±0.3	±25	±24	±12	±12	±18	±13	±1.2	±1.4		

LV peak sys. press.: Left ventricular peak systolic pressure, Peak Ao pressure. Peak aortic pressure; LV/Ao: Left ventricular/aortic; AVA: aortic valve area; LVEF: Left ventricular ejection fraction, Mean PA: Mean pulmonary artery pressure, PCWP. Mean pulmonary capillary wedge pressure; C.O.: Cardiac output; CHF FC: New York Heart Association functional class — congestive heart failure.

aortic peak-to-peak and mean gradient is shown in figure 2.

Mean pulmonary artery pressure and pulmonary capillary wedge pressure decreased in three of four patients, and cardiac output increased in three of four patients (table 2). Left ventriculography demonstrated an improvement in ejection fraction in all patients with a depressed left ventricular ejection fraction at baseline (table 2). In patient four, who had 3+ mitral regurgitation prior to valvuloplasty, mitral regurgitation was noted to be only 1+ after aortic valvuloplasty (figure 3). Ascending thoracic aortograms demonstrated no change in the degree of aortic insufficiency in any patient after aortic valvuloplasty.

In all patients, balloon inflation across the aortic valve of between 10 and 20 seconds was well tolerated. There were no symptomatic complaints during inflation, nor did aortic systolic pressure fall below 60 mmHg during the procedure. The serial aortic pressure for patient one is shown in figure 4 (facing page). Although catheter-induced ventricular premature contractions and non-sustained ventricular tachycardia were frequent, there were no episodes of sustained ventricular tachycardia or ventricular fibrillation.

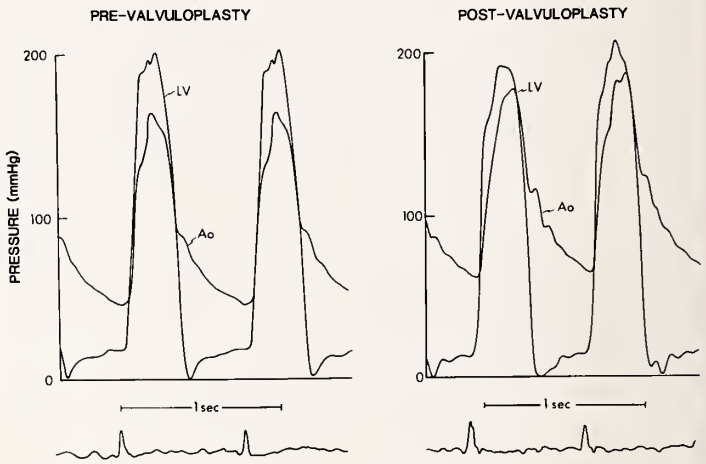


Figure 2. Simultaneous aortic (Ao) and left ventricular (LV) tracing before (left) and after (right) percutaneous aortic valvuloplasty in patient two. The peak-to-peak and mean aortic gradient have been significantly improved.

Patients two, three and four noted an improvement in symptoms of angina and dyspnea on exertion, and all pa-

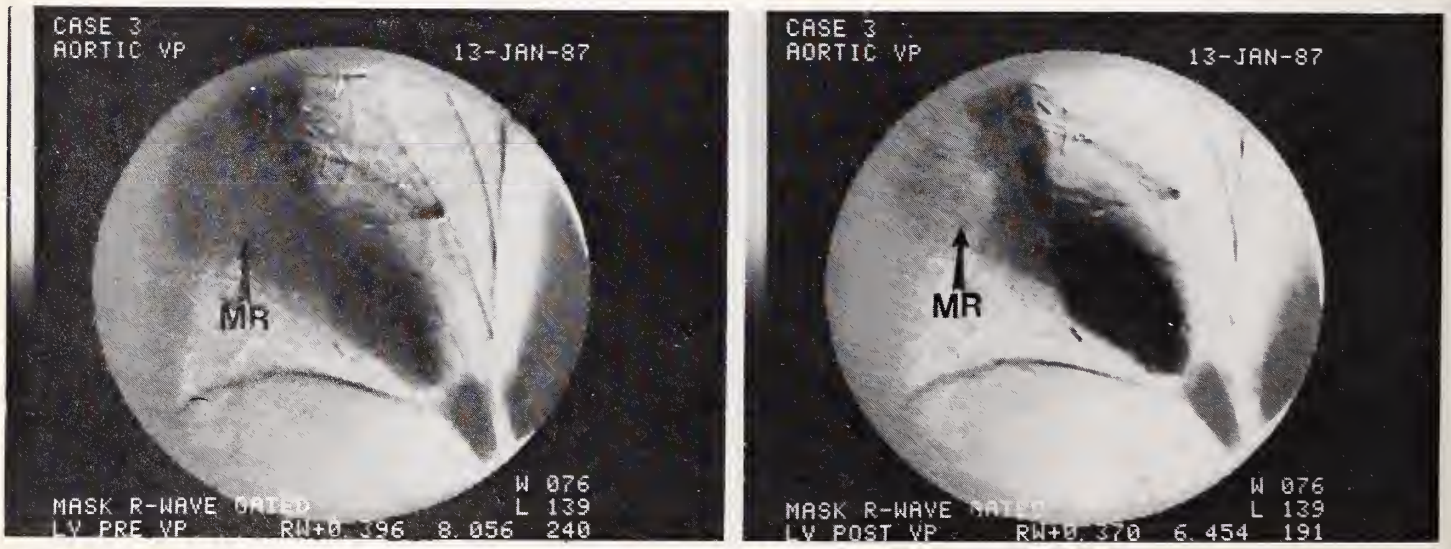


Figure 3. Left ventriculogram of patient four. Severe mitral regurgitation (MR) (left) is reduced to moderate mitral regurgitation following successful aortic valvuloplasty (right).

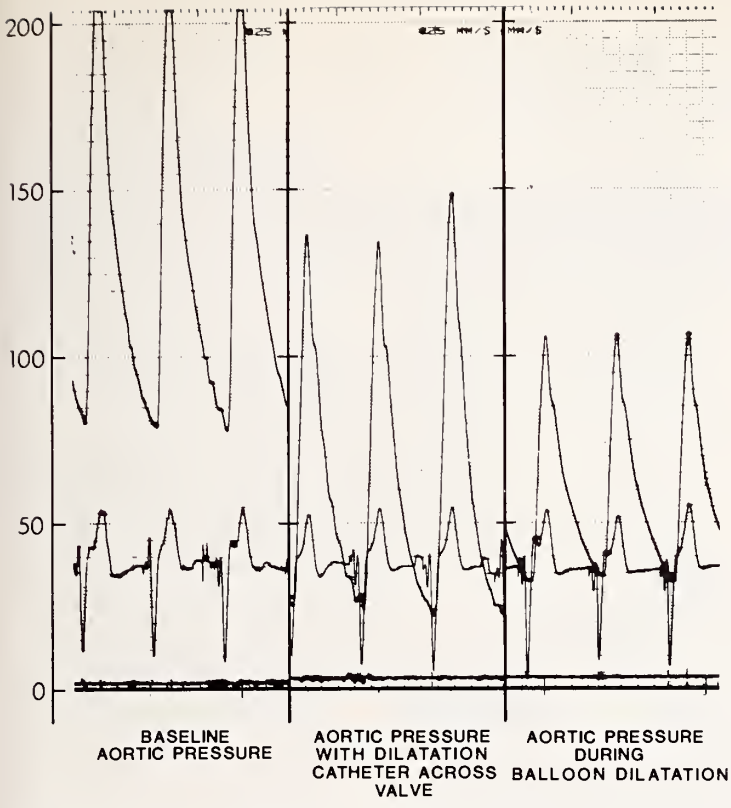


Figure 4. Aortic pressure and ECG recording in patient one at baseline, with catheter across stenotic aortic valve, and during balloon inflation. The placement of both catheter and balloon inflation were associated with a decrease in systolic aortic pressure from 210 mmHg to 105 mmHg.

tients were subsequently discharged ambulatory within ten days after the procedure. Due to dementia in patient one, symptom history was considered unreliable. In patient three, who had New York Heart Association functional class III angina prior to the procedure, improvement to New York Heart Association functional class II occurred during the hospitalization. In patients two, three and four, who presented with New York Heart Association functional class III, III, and IV congestive heart failure respectively, symptoms improved to functional class II.

After aortic valvuloplasty, the hospital course of patient one was complicated by a mild rise in total serum creatinine phosphokinase and MB fraction, suggestive of myocardial injury. However, her electrocardiogram remained unchanged and repeat radionuclide angiography revealed the left ventricular ejection fraction had risen to 85%. Additionally, her course was complicated by urosepsis and new unilateral weakness which resolved prior to discharge. An enhanced and non-enhanced CT scan of the head demonstrated multiple infarctions with no new areas of infarction. Two patients had significant blood loss requiring transfusion.

Discussion

Critical aortic stenosis presents a difficult management problem when the patient suffers from additional comorbid diseases that make aortic valve surgery a prohibitively high risk intervention. The natural history of acquired significant aortic stenosis with the three cardinal symptoms of congestive heart failure, angina or syncope portend an extremely poor prognosis, with average survival less than five years.[12] In several recent reports, percutaneous aortic balloon valvuloplasty has been demonstrated to be a possible alternative to aortic valve replacement in patients with degenerative calcific aortic stenosis.[8-11] One multicenter study from France reported 158 patients with severe aortic stenosis in whom surgery was either relatively contraindicated or refused.[11] In most patients, significant improvement in hemodynamics was achieved with an acceptably low risk of complications. The mechanism of successful dilatation appears to be due to separation of fused commissures, fracture of calcified leaflets, and/or stretching of the valve cusps.[9]

This report further demonstrates the feasibility, safety, and palliative success of percutaneous aortic valvuloplasty in four patients where surgery had been excluded as a potential intervention. Hemodynamic improvement was documented by all catheterization parameters of aortic valve and left ventricular systolic function, including the aortic valve area, mean aortic gradient, and peak left ventricular to peak aortic pressure. This was accomplished without any detectable increase in aortic insufficiency. Each patient with depressed left ventricular ejection fraction had improvement in systolic performance following the procedure. Additionally, a rise in cardiac output was demonstrated.

In three patients, in whom a reliable history was obtainable, symptoms of angina, dyspnea, and shortness of breath were markedly improved during the hospitalization. While one patient did incur an increase in myocardial enzymes after the valvuloplasty, the electrocardiogram and follow up radionuclide angiogram as well as the clinical course were unaffected. It is possible that either emboli or coronary underperfusion during aortic balloon inflation contributed to this increase in cardiac enzymes.

Cerebral embolization is a potential concern in the performance of percutaneous aortic valvuloplasty. Cribier et al[11] noted one episode in 158 patients. McKay et al[10] noted no clinically detectable episodes of cerebral embolization in a series of 49 patients in this country. While our patient one developed transient unilateral weakness on the day of the procedure, it is unclear whether this was related to the valvuloplasty. Computerized tomography could not conclusively demonstrate a new area of cerebral infarction. Further investigation is needed before conclusions regarding the risk of cerebral embolization can be substantiated. At this time it appears to be a minor risk.

The initial excellent results, especially the symptomatic improvement evident early after the procedure, suggest that catheter aortic balloon valvuloplasty is a reasonable and safe alternative to aortic valve replacement in the elderly patient, in those patients in whom surgery is an exceptionally high risk procedure or in those patients who refuse surgery for any reason. The procedure appears to be equally promising in the treatment of mitral stenosis as well. This exciting

new method offers hope for a palliative approach to stenotic valve disease in many patients in whom age, comorbid disease or other factors make valve replacement untenable. As the technique continues to evolve, the indications for balloon valvuloplasty procedures will likely expand. ■

Addendum

Since submission of this manuscript, we have successfully performed aortic valvuloplasty in eight additional patients, with no complications.

Acknowledgment

The authors wish to thank Cathey McCorkle for preparation of the manuscript, and Dr. Doug Packer, Dr. Frank Camp, Dr. Jack Taylor and Dr. William Eakins for referral of the patients reported here.

References

1 Kan JS, White RI, Mitchell SE, et al. Percutaneous transluminal balloon valvuloplasty for pulmonary valve stenosis. Circulation 1984;69:554-60.

2 Pepine CJ, Gessner IH, Feldman RL. Percutaneous balloon valvuloplasty for pulmonic stenosis in the adult. Am J Cardiology 1982;50:1442-5.

3 Lock JE, Khalilullah M, Shrivasta S, et al. Percutaneous catheter commissurotomy in rheumatic mitral stenosis. N Engl J Med 1985;313:1515-8.

4 Palacios IF, Lock JE, Keane JF, Block PC. Percutaneous transvenous balloon valvulotomy in a patient with severe calcific mitral stenosis. J Am Coll Cardiol 1986;7:1416-9.

5 Palacios IF, Block PC, et al. Percutaneous balloon valvulotomy for mitral stenosis. Circulation 1986;74:(Supp II)208.

6 Cooper RS, Ritter SB, Golinko RJ. Balloon dilatation angioplasty: Non-surgical management of coarctation of the aorta. Circulation 1984;70:903-7.

7 Lababidi Z, Wu JR, Walls JT. Percutaneous balloon aortic valvuloplasty: results in 23 patients. Am J Cardiology 1984;3:1005-12.

8 Cribier A, Saoudi N, Berland J, et al. Percutaneous transluminal valvuloplasty of acquired aortic stenosis in elderly patients: an alternative to valve replacement? Lancet 1986;1:63-7.

9 McKay RG, Safian RD, Lock JE, et al. Balloon dilatation of calcific aortic stenosis in elderly patients: post mortem, intraoperative, and percutaneous valvuloplasty studies. Circulation 1986;74:119-25.

10 McKay RG, Safian RD, Lock JE, et al. Assessment of left ventricular and aortic valve function after aortic balloon valvuloplasty in adult patients with critical aortic stenosis. Circulation 1987;75:192-203.

11 Cribier A, Letac B, Lancelin B, et al. Percutaneous balloon valvuloplasty (PBV) for acquired aortic stenosis: preliminary immediate results of the French registry. Circulation 1986;74:(Supp II)208 (Abst).

12 Frank S, Johnston A, Ross J. Natural history of valvular aortic stenosis. Br Heart J 1973;35:41-6.

Resolution of Appreciation

Whereas, Page Hudson, M.D., has recently embarked upon a new academic career, we the members of the North Carolina Society of Pathologists offer this resolution of appreciation.

Doctor Hudson has played the major role in the inception, nurture and growth of the office of Medical Examiner for the State of North Carolina. His academic background, drive, determination and commitment to excellence have brought that office to national prominence and made it a model for other states to follow.

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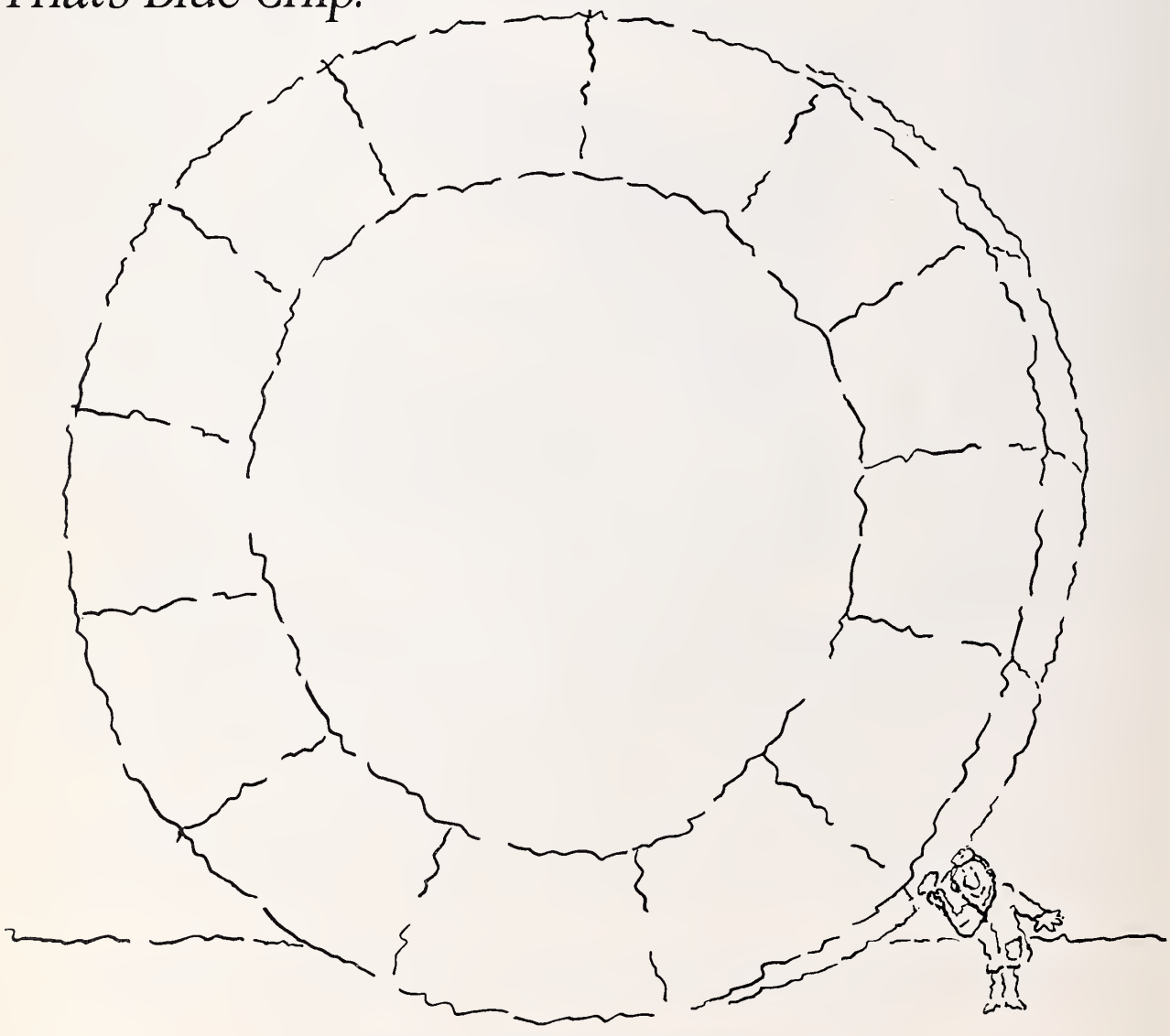
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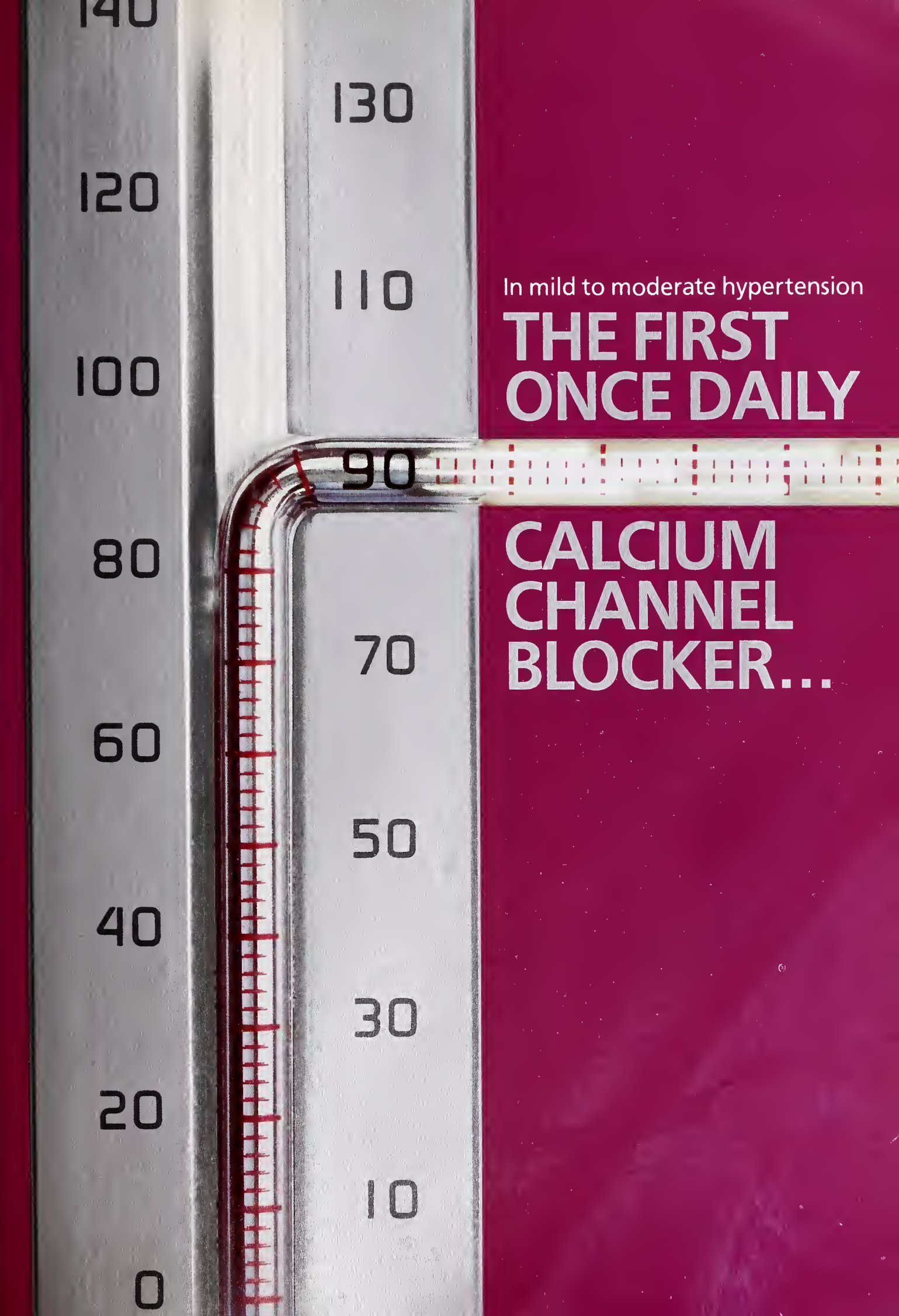
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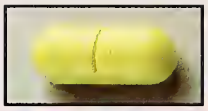
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JAMES B.
38, black male, heavy smoker. Prescribed a diuretic by another physician last year for hypertension.

YOUR CONCERNS
Presents with "smoker's cough." Workup reveals a BP of 150/107.

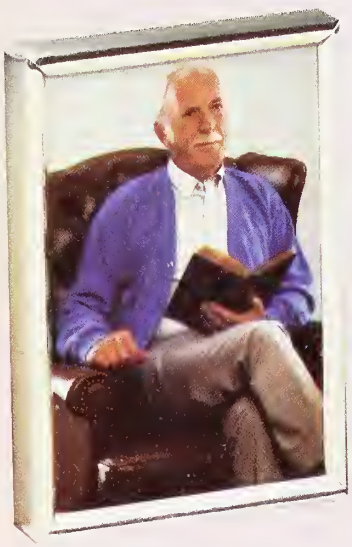
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- Black hypertensives often have low plasma renin activity and generally do not respond favorably to beta blockers.
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ALICE W.
65, diabetic, overweight. Her BP has elevated to 190/98.

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She's on daily insulin.

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- Unlike most beta blockers and diuretics, ISOPTIN has no adverse effects on serum glucose levels.
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THOMAS G.
70, asthmatic. In the past, BP adequately controlled with 25 mg hydrochlorothiazide daily.

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Today patient presents with symptoms of gout. Workup reveals high uric acid level, low serum potassium, and BP elevated to 180/98.

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- Unlike beta blockers, ISOPTIN can be used safely in asthma and COPD patients.

JOHN K.
42, Annual physical uncovered diastolic BP of 102... confirmed on three successive office visits. Unresponsive to nonpharmacologic intervention.

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Salesman, spends many hours of his working day in car... total cholesterol level 300, HDL 35.

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WARNINGS: Heart Failure: ISOPTIN should be avoided in patients with severe left ventricular dysfunction (see DRUG INTERACTIONS). Patients with milder ventricular dysfunction should, if possible, be controlled before verapamil treatment. Hypotension: ISOPTIN (verapamil HCl) may produce occasional symptomatic hypotension. Elevated Liver Enzymes: Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Periodic monitoring of liver function in patients receiving verapamil is therefore prudent. Accessory Bypass Tract (Wolff-Parkinson-White): Patients with paroxysmal and/or chronic atrial flutter or atrial fibrillation and a coexisting accessory AV pathway have developed increased antegrade conduction across the accessory pathway producing a very rapid ventricular response or ventricular fibrillation after receiving intravenous verapamil. While this has not been reported with oral verapamil, it should be considered a potential risk. Treatment is usually D.C.-cardioversion. Atrioventricular Block: The effect of verapamil on AV conduction and the SA node may cause asymptomatic 1st degree AV block and transient bradycardia. Higher degrees of AV block, while infrequent (0.8%), may require a reduction in dosage or, in rare instances, discontinuation of verapamil HCl. Patients with Hypertrophic Cardiomyopathy (IHSS): Although verapamil has been used in the therapy of patients with IHSS, severe cardiovascular decompensation and death have been noted in this patient population.

PRECAUTIONS: Impaired Hepatic or Renal Function: Verapamil is highly metabolized by the liver with about 70% of an administered dose excreted in the urine. In patients with impaired hepatic or renal function verapamil should be administered cautiously and the patients monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacological effects (see OVERDOSAGE).

Drug Interactions: Beta Blockers: Concomitant use of ISOPTIN and oral beta-adrenergic blocking agents may be beneficial in certain patients with chronic stable angina or hypertension, but available information is not sufficient to predict with confidence the effects of concurrent treatment in patients with left ventricular dysfunction or cardiac conduction abnormalities. Digitalis: Clinical use of verapamil in digitalized patients has shown the combination to be well tolerated if digoxin doses are properly adjusted. However, chronic verapamil treatment increases serum digoxin levels by 50 to 75% during the first week of therapy and this can result in digitalis toxicity. Upon discontinuation of ISOPTIN (verapamil HCl), the patient should be reassessed to avoid underdigitalization. Antihypertensive Agents: Verapamil administered concomitantly with oral antihypertensive agents (e.g., vasodilators, angiotensin-converting enzyme inhibitors, diuretics, beta blockers, prazosin) will usually have an additive effect on lowering blood pressure. Patients receiving these combinations should be appropriately monitored. Disopyramide: Disopyramide should not be administered within 48 hours before or 24 hours after verapamil administration. Quinidine: In patients with hypertrophic cardiomyopathy (IHSS), concomitant use of verapamil and quinidine resulted in significant hypotension. There has been a report of increased quinidine levels during verapamil therapy. Nitrates: The pharmacologic profile of verapamil and nitrates as well as clinical experience suggest beneficial interactions. Cimetidine: Two clinical trials have shown a lack of significant verapamil interaction with cimetidine. A third study showed cimetidine reduced verapamil clearance and increased elimination to 1/2. Anesthetic Agents: Verapamil may potentiate the activity of neuromuscular blocking agents and inhalation anesthetics. Carbamazepine: Verapamil may increase carbamazepine concentrations during combined therapy. Rifampin: Therapy with rifampin may markedly reduce oral verapamil bioavailability. Lithium: Verapamil may lower lithium levels in patient on chronic oral lithium therapy. Carcinogenesis, Mutagenesis, Impairment of Fertility: There was no evidence of a carcinogenic potential of verapamil administered to rats for two years. Verapamil was not mutagenic in the Ames test. Studies in female rats did not show impaired fertility. Effects on male fertility have not been determined. Pregnancy (Category C): There are no adequate and well-controlled studies in pregnant women. ISOPTIN crosses the placental barrier and can be detected in umbilical vein blood at delivery. This drug should be used during pregnancy, labor, and delivery, only if clearly needed. Nursing Mothers: ISOPTIN is excreted in human milk, therefore, nursing should be discontinued while verapamil is administered. Pediatric Use: Safety and efficacy of ISOPTIN in children below the age of 18 years have not been established.

ADVERSE REACTIONS: Constipation 8.4%, dizziness 3.5%, nausea 2.7%, hypotension 2.5%, edema 2.1%, headache 1.9%, CHF/pulmonary edema 1.8%, fatigue 1.7%, bradycardia 1.4%, 3° AV block 0.8%, flushing 0.1%, elevated liver enzymes (see WARNINGS). The following reactions, reported in less than 1.0% of patients, occurred under conditions (open trials, marketing experience) where a causal relationship is uncertain; they are mentioned to alert the physician to a possible relationship: angina pectoris, arthralgia and rash, AV block, blurred vision, cerebrovascular accident, chest pain, claudication, confusion, diarrhea, dry mouth, dyspnea, ecchymosis or bruising, equilibrium disorders, exanthema, gastrointestinal distress, gingival hyperplasia, gynecomastia, hair loss, hyperkeratosis, impotence, increased urination, insomnia, macules, muscle cramps, myocardial infarction, palpitations, paresthesia, psychotic symptoms, purpura (vasculitis), shakiness, somnolence, spotty menstruation, sweating, syncope, urticaria. Treatment of Acute Cardiovascular Adverse Reactions: Whenever severe hypotension or complete AV block occur following oral administration of verapamil, the appropriate emergency measures should be applied immediately, e.g., intravenously administered isoproterenol HCl, levarterenol bitartrate, atropine (all in the usual doses), or calcium gluconate (10% solution). If further support is necessary, inotropic agents (dopamine or dobutamine) may be administered. Actual treatment and dosage should depend on the severity and the clinical situation and the judgment and experience of the treating physician.

OVERDOSAGE: Treatment of overdosage should be supportive. Beta-adrenergic stimulation or parenteral administration of calcium solutions may increase calcium ion flux across the slow channel, and have been used effectively in treatment of deliberate overdosage with verapamil. Clinically significant hypotensive reactions or fixed high degree AV block should be treated with vasopressor agents or cardiac pacing, respectively. Asystole should be handled by the usual measures including cardiopulmonary resuscitation.

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Nightshade Poisoning

Ronald B. Mack, M.D.

Many loyal readers of this column are aware that I have lived before. During the Renaissance, in Rome and Florence, I was the chief poisoner for the Borgias — actually one of the better jobs in my long history. During this interval I received a letter from a Friar Lawrence in Verona. The good cleric had a problem; he had a pair of "star-crossed" lovers who wanted to get married but their families were deadly enemies and the girl in this problem was to be married to someone else, not of her choosing. Now Friar Lawrence was also an alchemist and knew a lot about plants, herbs and so on but he needed a consult on what to give a young person who wanted to appear dead but not really die. He was hoping to find a drug to put this lady "out of it" for a few days. Thinking she was dead, her family would leave her in the family tomb and when she awoke her lover would spirit her out of town on a big Harley and they would live happily ever after.

After giving this matter much thought I recommended the *nightshade* plant and I instructed him to tell his prospective client that "no pulse shall keep his native progress, but surcease; no warmth, no breath, shall testify thou livest."[1] The rest is history, as they say; the lovers died by suicide and Juliet's father is suing me for not getting informed consent. By the way, Romeo, the stud in this tale, goes to an apothecary, buys some cheap poison to do himself in and succeeds. He went to a discount poisoner.

As a potential poison the nightshade plant still exists and in fact is a very commonly ingested substance even as we speak. In the 1985 Annual Report of the American Association of Poison Control Centers, in data representing 48% of the human poison exposures reported to poison centers, there were 1,984 exposures to this plant type, almost all in children under the age of six years.[2] Whereas the philodendron is by far the most commonly reported ingested flora, the nightshade plant has consistently remained in the top 10 most common plant exposures during the past few years.[3]

The designation "nightshade" can be very confusing to those unfamiliar with the botanical literature, because there are several plants in the nightshade family,[4] such as:

The Woody Nightshade (AKA the Climbing Nightshade or Bittersweet) — Solanum dulcamara.
The Deadly Nightshade (AKA the Black Nightshade) — Solanum americanum (U.S. variety) and Solanum nigrum (European variety).



Solanum dulcamara.
Reprinted from CR Bell. Plant variation and classification. Belmont CA, 1967. Drawings by Susan Carlton Smith.

The confusion in the literature generally surrounds the terms "bittersweet" and "nightshade." For example, the plant Celastrus scandens, which is weakly poisonous, is also called "bittersweet" or "climbing bittersweet." Solanum dulcamara is often referred to as "bittersweet" or "European bittersweet" but is commonly called the "nightshade," "deadly nightshade" or "climbing nightshade." Even more confusing, especially to me, is the common reference to Atropa belladonna as the "deadly nightshade." This latter plant is the only "nightshade" that does not contain solanine (vide infra). This epistle will only discuss the nightshades in the solanum genus and will leave the Atropa belladonna for another day.

Let me not fail to mention other members of the nightshade genus Solanum group[5] with which you may or may not be familiar:

From the Department of Pediatrics, Bowman Gray School of Medicine, Wake Forest University, Winston-Salem 27103.

The Jerusalem Cherry — S. pseudocapsicum
The potato — S. tuberosum
The horse nettle — S. carolinense

The nightshade genus that we are discussing derives its scientific name from the Latin word for quieting — solanem — possibly because of its historical use as a sedative producing plant. This genus is quite large and has 1,700 separate species, most of which have never been evaluated from a toxicology viewpoint. The plants themselves are usually herbs (sometimes of the climbing variety) or shrubs; they are often spiny or hairy or have stinging hairs. Among the distinctive features of the nightshades are the star-shaped or bell-shaped flowers with fused petals. The berries can be black, orange, yellow or red, and are pea- to grape-sized with small seeds.

Although nightshades contain many potentially toxic substances such as steroidal alkaloids, saponins, esters and free parent alkamines, the more common putative culprit in the typical nightshade ingestion is the glycosidal alkaloid, *solanine*. All parts of the plant, leaves included, are potentially poisonous, with the unripe fruits (the berries, of course) containing the highest concentrations. It has been alleged that the berries of the woody nightshade (S. dulcamara) and the deadly nightshade (S. americanum and S. nigrum) are especially toxic potentially. All parts of the white potato plant except the tubers contain serious amounts of solanine; and heavy concentrations may be present in green or "spoiled" tubers, usually under the skin and in the sprouts or "eyes."

If, like me, you have trouble identifying any flora that is unlabeled, seek the counsel of the nearest high school or college botany teacher or the manager of a successful plant and garden store. In the city streets where I grew up, flower tending and flower identification were not necessary requirements for "street sense," so my education in this area is remarkably deficient, unfortunately. "Street sense" can be embarrassing sometimes. In boot camp during World War II, while undergoing instruction in hand-to-hand combat prior to a possible invasion of the country that now produces my car, TV, VCR, compact disc player, etc., I asked the Drill Instructor if it was OK for me to use tire chains as a weapon.

Small amounts of the solanine group of plants are all that is necessary to produce adverse clinical features. Whereas solanine-plant ingestion does not have remarkable toxicity in adults, fatal poisoning due to this group of plants has been reported in children.[2,6] Onset of illness following ingestion can vary from early to a delay of 12 to 24 hours before clinical toxicity occurs. The signs and symptoms of solanine intoxication appear to be related to the degree to which this toxic alkaloid is metabolized and absorbed.

As you might suspect, the toxicological features can be divided into *local* and *systemic*. The presence of solanine in the gastrointestinal tract produces local irritation as manifested by nausea, vomiting, diarrhea and abdominal pain. These symptoms and signs are by far the most common ones seen with this poisoning. Solanine poisoning can easily be confused with a bacterial gastroenteritis, unless a good history is available. Accompanying this gastrointestinal insult there is an irritating, scratchy feeling in the pharynx and an elevated body tamperature. If the toxin is absorbed, the abnormalities produced are primarily in the central nervous system (CNS), and you may see such bad signs and symptoms as drowsiness, dyspnea, muscular weakness, CNS depression with progression to respiratory failure, coma, shock and possible death. Bradycardia is a typical event in solanine poisoning. Paresthesias such as loss of sensation are also seen in severe cases. To reiterate, solanine has low toxicity for adults, but can be fatal to a child.

It is difficult, in perusing the literature, to determine how many berries it takes to poison a child. Some authors, even recently, allege that as few as two or three unripe berries can produce symptoms[7] and that as few as ten berries are potentially fatal to a small child. In any event, it is practically never possible to exactly quantify the ingestion in most plant poisonings, especially in non-witnessed ingestions by preschool children.

The management of a patient with suspected or known solanine poisoning is quite non-specific and supportive: gastric emptying and charcoal administration, support of the cardiorespiratory systems, and maintenance of fluid balance. There is no antidote for this intoxication.

There is no question that Shakespeare knew about the many drugs available in his time, because he wrote about sleep-inducing drugs from such plants as poppy and mandragora (mandrake). At least some authorities speculate that Friar Lawrence slipped Juliet some nightshade to produce the sleep state she desired, telling her, "and in this borrowed likeness of shrunk death, thou shalt continue two and forty hours, and then awake as from a pleasant sleep."[1] Actually, as you know, she awoke and found her lover taking the Big Sleep. Now they are both dead and I'm being sued. I tell ya, I get no respect. ■

References

1 Shakespeare W. Romeo and Juliet, Act IV, Scene I. New Haven, CT: Yale University Press, 1954.
2 Litovitz TL, Normann SA, Valtri JC. 1985 Annual report of the American Association of Poison Control Centers. Amer Jour Emer Med 1986;4:427.
3 Borys DJ. A retrospective review of plant exposures as reported to the Hennepin Regional Center in 1985. Vet Hum Toxicol 1987;29:83.
4 Levy CK, Primack RB. A field guide to poisonous plants and mushrooms. Stephen Green Press, 1984.
5 Lampe KF. AMA handbook of poisonous and injurious plants. American Medical Association, 1985.
6 Alexander et al. A fatal case of solanine poisoning. Br Med J 1948;2:518.
7 Spoerke D. Herbal medications. Santa Barbara, CA: Woodbridge Press Publishing Co., 1980.

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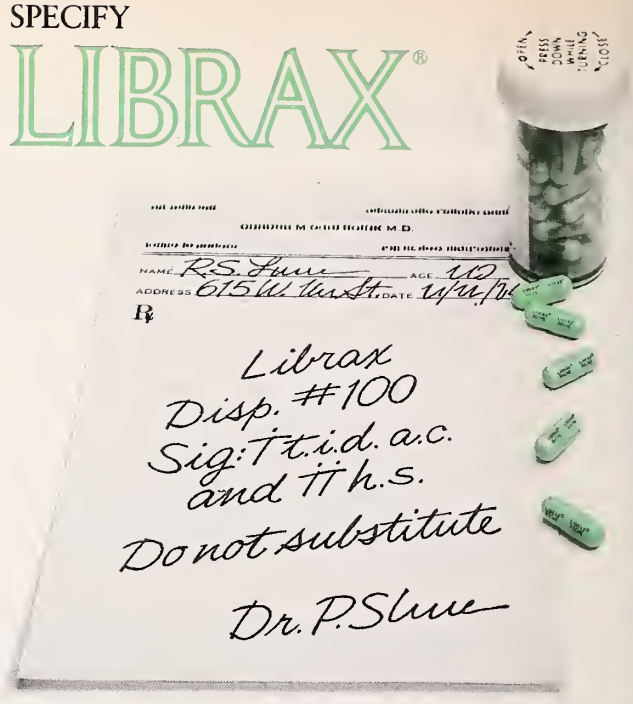
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* **Indications:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows: "Possibly" effective: as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis. Final classification of the less-than-effective indications requires further investigation.

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librium® (chlordiazepoxide HCl/Roche) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions) reported following discontinuation of the drug.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.**

As with all anticholinergics, inhibition of lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship not established.

Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated; avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered: isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction; changes in EEG patterns may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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*Librax has been evaluated as possibly effective as adjunctive therapy in the treatment of duodenal ulcer and the irritable bowel syndrome.

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Teens and Sex

Confessions of an Imperiled Liberal

JOHN F. STEEGE, M.D.

A "conservative" is a "liberal" with a teenage daughter.

Adolescence is tough. When I was 16, my biggest concern was getting my curve ball over the plate. Sex was fantasy. If my young daughter were 16 today, she would be dealing with far weightier matters, according to a survey conducted for the Planned Parenthood Federation by Louis Harris and Associates, Inc. Following in the next pages, see the survey topics and highlights of the findings reprinted from the lengthy survey report published in 1986 by Harris and Planned Parenthood.

Harris polled 1,000 teenagers from across the country in September and October of 1986. The results indicate that if my daughter were 16:

Forty-six percent of her peers would have already had intercourse (not my daughter).

If her grades fell or her career goals became uncertain, she would be more likely to start having sex.

She would say that others feel pressured to have sex (73%), but would be less likely (28%) to admit feeling pressured herself.

If sexually active, she would be more likely to use birth control (60%-70%) because she is the daughter of white college-educated parents; if she were black and the daughter of non-college-educated parents, she would be less likely (20-35%) to use contraception some or all of the time.

If she had talked with me about sex and contraception, she would be more likely to use contraception if sexually active (48% vs 26%).

Further, she and her peers would be likely to have some form of sex education in their schools (59%), but only some of the courses would be comprehensive (35%). A high level of knowledge about sexuality is associated with regular contraceptive use (45%) as compared to a low level of knowledge (15%). Despite these efforts, she and her friends would still have significant areas of ignorance: 35% would see the condom as unreliable, while many would feel that the birth control pill (23%) or the diaphragm (20%) can be obtained at the drug store without prescription; 12% would believe that the pill causes cancer and 11% would believe it causes infertility. Finally, 14% would hold the magical belief that pregnancy could not happen to them.

Okay, so far, so good. All I've got to do is keep the lines of communication open, encourage positive goals in life, and support her extra-curricular interests (can't somebody else take the carpool today?). But now she tells me that a lot of her friends think a birth control clinic

From the Division of Gynecology, Department of Obstetrics and Gynecology, Duke University Medical Center, Box 3263, Durham 27710.

should be located either in their school (12%) or conveniently near it (28%). A third of her friends feel that they would have trouble affording the $5 to $20 a month expense of contraception (would I really like to see this as a line item on her allowance budget?). Almost all (78%) of her friends (not my daughter) want their contraceptive care to be confidential. Despite my being a gynecologist, she and her friends (70%) see the pelvic examination as a major obstacle to acquiring contraception.

I'm nervous. What if I dig in my heels and say she shouldn't attend that sex education course? She's no less likely to begin sexual activity, but she is less likely to use contraception. If I choose to raise her as a fundamentalist Christian, she might be less likely to become sexually active (25% vs 50%), but if active would be less likely to use contraception (22% vs 35%).

Thankfully, I'm getting a lot of help. The American College of Obstetricians and Gynecologists (ACOG), led by past president Luella Klein, M.D., has waged an active campaign to reverse media restrictions on contraceptive advertising. Condom ads have begun on TV in North Carolina. ACOG President Harry S. Jonas, M.D., has started the College on a project of developing sex education programs which will be ready shortly. The Adolescent Health Care Committee of the College has been examining sex education curricula and coordinating efforts with other educational groups. U.S. Surgeon General C. Everett Koop, M.D., reacting to the AIDS crisis, has become a supporter of sex education. A recent Gallup Poll reports that 78% of adult Americans support sex education before high school, and approximately half support it at the elementary school level.

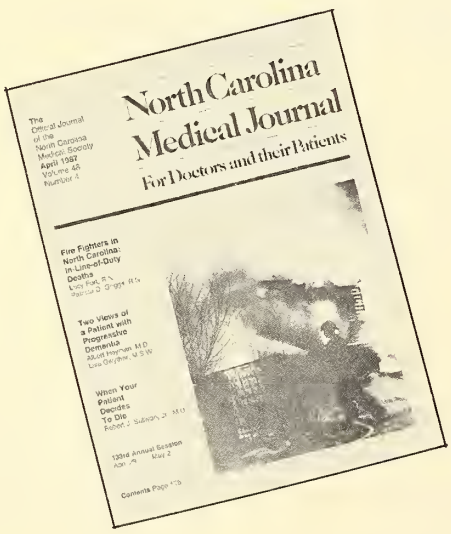
My daughter: I hope when the time comes she feels comfortable asking me. Then again, I hope she doesn't need to. I think I'll work on this editorial in the office instead of at home.

P.S. My son has not yet reached the age of genital awareness. I'll worry about him later. ■

• Editor's note: Dr. Steege teaches Human Sexuality to Duke University undergraduates and medical students. He directs the Biobehavioral Gynecology section of the division of Gynecology, including the Premenstrual Syndrome Clinic, Pelvic Pain Clinic, and Sex Therapy and Education Program.

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"American Teens Speak"
Report on a Survey

THE PLANNED PARENTHOOD FEDERATION
OF AMERICA, INC.

The Planned Parenthood Federation of America, Inc., commissioned a poll of 1,000 teenagers in their homes by Louis Harris and Associates, Inc., and published the findings in a pamphlet entitled "American Teens Speak: Sex, Myths, TV, and Birth Control." Reprinted here are the topics covered and highlights of the findings.

What They Hoped To Find Out

The topics in the survey include:

The reasons why so many teenagers do not wait to have sexual intercourse.

The reasons why so many sexually active teenagers do not use birth control.

Arguments that teenagers think would influence their peers to delay sex.

Arguments and steps that teenagers think would influence their peers to use birth control.

Areas of knowledge and areas of ignorance or myth about sexuality.

Sources of information (and misinformation) about sexual topics.

The perceived realism of TV in dealing with sexual topics.

The content of sex education courses in the schools, as reported by the pupils who have actually taken them.

The extent of talks between parents and children on sex and birth control.

The resulting impact on teenagers' sexual behavior of knowledge, parental talks, and sex education courses.

The barriers that remain to increased use of birth control by teenagers.

From Planned Parenthood Federation of America, Inc., 810 Seventh Ave., New York, NY 10019

Highlights of the Survey Findings

Teenage sex and use of birth control. The survey documents the scope of a national problem: many teenagers are sexually active, and yet many do not usually use birth control. High rates of teenage pregnancy are the inevitable result. And those results will fall heaviest, the survey shows, at those levels of society where teenagers and their parents have the least resources to cope with the problem.

1 *More than half of America's teenagers report having had sexual intercourse by their seventeenth year.* Of all U.S. teenagers age 12 through age 17, nearly three out of ten (28%) say they have had sexual intercourse. The proportion increases rapidly with age, rising from 4% of the 12-year-olds to 57% of the 17-year-olds.

2 *Sexual activity begins earlier among those teenagers who have the fewest resources, and who are thus the most vulnerable.* Teenagers whose parents are not college graduates, teenagers who have grades in school averaging C, D, or F, and black teenagers are all more likely to have had sexual intercourse.

3 *Teenagers say that social pressure is the chief reason why so many of their peers do not wait to have sexual intercourse until they are older.* Both boys as well as girls cite social pressure more frequently than other factors, but girls mention it (73%) more than do boys (50%). More girls (28%) than boys (21%) also say that they themselves have personally felt pressured by other teenagers to go farther with sex than they wanted to.

4 *Only one-third (33%) of those teenagers who have had intercourse say that they use contraceptives all the time.* Nearly as many (27%) say that they *never* use them. The rest say that they use contraceptives "sometimes" or "most of the time."

5 *Teenagers who have the fewest resources are the most likely to be at risk by not using contraceptives.* Among sexually active teenagers, those whose parents are not college graduates, those who live with only one parent, and black and Hispanic teenagers are all less likely to use contraceptives.

6 *Teenagers who have had intercourse say that "un-*

expected sex" — with no time to prepare — is the most frequent single reason why they and so many of their peers do not use birth control. Other categories of reasons cited by teenagers as a whole include: that many simply prefer not to use birth control (39%), that many do not know enough about contraceptives or can't get access to them (25%), that many are too afraid and embarrassed to get contraceptives or fearful that their parents will find out (24%), and that many believe they are safe without contraceptives, that pregnancy will not happen to them (15%).

7 *Contraceptives are most likely to be used by those teenagers who can see they have a lot at stake and who stand to lose a lot by being involved in an unintended pregnancy.* This includes those who can name some career they aspire to, those whose grades are in the A or B range, and those who are involved in sports or extracurricular activities. They have extra incentive to look ahead and to plan beyond the moment. They are more likely to have both the motive and the resources to overcome a cultural tradition that, while valuing spontaneity in human relationships, often discourages any combination of "planning" with "romance."

"Education and information . . . have enormous impact on teenagers' sexual behavior."

The impact of knowledge, talks with parents, and sex education at school. Education and information, the survey shows, have enormous impact on teenagers' sexual behavior. Therefore, a major priority for society in dealing with the problem of teenage pregnancy is to find ways of increasing the information that teenagers have at their disposal. This means encouraging more parents to talk openly and in detail with their own children about sexuality and contraception. It also means improving both the availability and the comprehensiveness of sex education in the schools.

1 *Teenagers who have talked about sex, pregnancy, and contraception with their parents are more likely to use birth control all the time if they are sexually active.* Of sexually active teenagers who have had *no* talk with their parents, only 26% use birth control all the time. This figure rises to 37% among those who have *some* kind of talk about sex with their parents, and to 43% among those whose talk *included* the subject of birth control.

2 *Two-thirds of American teenagers (68%) have at some time talked to their parents about sex and how pregnancy is caused. But only one-half of those (33% of all teenagers) had talks that included the subject of birth control.* Girls are more likely to have had discussions with their parents than are boys. Whites and blacks are more likely than Hispanic teenagers. And those whose parents are college graduates are more likely to have talked about sex with their parents, but they are no more likely to have talked about birth control.

3 *Teenagers who have had a comprehensive sex education course at school are more likely to use birth control all the time if they are sexually active.* Of sexually active teenagers who have had *no* sex education course, only 25% say they use birth control all the time. That figure rises slightly to 30% among those who have had a formal sex education course which was *not* comprehensive. Of those who had a course which *was* comprehensive, 40% use contraceptives all the time.

4 *A majority of American teenagers (59%) have had some kind of formal course or class on sex education at school. But only 35% of all teenagers have had a sex education course whose content could be called comprehensive.* "Comprehensive" was defined as including at least four out of the following six topics: biological facts of reproduction, coping with sexual development, different kinds of birth control, information about where to get contraceptives, information about preventing sexual abuse, and facts about abortion.

5 *Teenagers who have greater knowledge about sexuality — gained from whatever source — are also more likely to use contraceptives all the time if they are sexually active.* Of sexually active teenagers who have a low level of knowledge about sexuality, only 16% use birth control all the time. That figure rises to 25% among those who have a medium level of knowledge. It rises greatly among those with a high level of knowledge; 45% of them use birth control all the time.

6 *Many teenagers are confused or uncertain in their knowledge of basic facts about sexuality. And many of the teenagers who are most at risk of pregnancy turn out to have the least knowledge.* For instance, only 40% of all teenagers know it is usually true that a girl is most likely to become pregnant about two weeks after her menstrual period begins; 59% give the wrong answer or are not sure. From this and six other such facts, a "sexuality knowledge index" was constructed to show which teenagers are most knowledgeable and which are confused or ignorant. Those whose economic status is low have less knowledge than do those with a higher economic status. And those with lower grades in school also have less knowledge. And black and Hispanic teenagers have less knowledge of these topics than whites.

Thus there is a vicious cycle at work that compounds social and economic disadvantage with disadvantages in dealing with the world of sexuality. Low sexual information — with a resulting greater risk of pregnancy — is simply one more way in which socially disadvantaged teenagers get left behind.

7 *But it is possible to break into this cycle. For greater knowledge of sexuality is shown both by teenagers who have talked with their parents and by teenagers who have*

had formal sex education in school. Parent-child communication would seem to be an under-utilized resource that has a large potential for improving the situation. Teenagers rank parents as first in importance out of eleven possible sources of information about sex and birth control. Yet, as we have seen, only one-third of all teenagers currently say they have actually discussed birth control with their parents. This potential, however, may never be fully realized. Forty-two percent of teenagers say they would be nervous or afraid to bring up the subject with their parents. And last year's [1985] Planned Parenthood Poll of adults across the U.S. showed that many parents themselves feel they need outside help in educating their children about sex and birth control.

8 *Sex education in the schools is the other way that society can break the cycle of low social status — low grades — low information about sexuality — low use of contraceptives — high risk of pregnancy.* Teenagers currently rank courses at school as third most important out of eleven possible sources of information about sex and birth control. Yet, as reported above, only 35% of all teenagers currently have had a comprehensive sex education course, indicating that here, too, there is a large potential for improving the situation.

"Teenagers rank parents first in importance (for) information about sex and birth control."

9 *It is important that both parents and schools play a greater role, for the other two most important sources of teenagers' information are their own* ***friends*** *(second in importance out of eleven possible sources) and* ***television and movies*** *(fourth in importance out of eleven).* As for teenagers' friends, in many cases they are no more knowledgeable than they [respondents] are themselves. Regarding television's portrayal of sexual subjects, in this year's survey teenagers were asked the same questions about television that adults had been asked in last year's survey. The results show that teenagers have greater faith in the realism of television's portrayal of sexual subjects than adults do. For instance, 41% of teenagers think that television gives a realistic picture of pregnancy and the consequences of sex. Only 24% of adults think that.

Further steps that society can take. In addition to encouraging parent-child talks and sex education in the schools, society may also wish to intervene in additional ways, such as by an organized campaign for teenage pregnancy prevention [see the article that follows for information on one local project in North Carolina]. For such a campaign, the survey shows a number of the tools which can prove effective.

1 *In evaluating arguments for delaying sex, teenagers say that the danger of catching sexually transmitted diseases and the danger of a pregnancy ruining one's life are two messages that are most likely to influence their peers.* Sixty-five percent think that telling teenagers to worry more about catching diseases like AIDS and herpes would be likely to influence them to wait to have sexual intercourse. Sixty-two percent think that telling them how a pregnancy could ruin their life would be effective. While such arguments may prove useful in convincing some teenagers to delay sex, in some cases the delay may serve mainly to postpone an unintended pregnancy until a later age, rather than to prevent it altogether. Further steps are needed in pregnancy prevention.

2 *In evaluating steps to encourage the use of birth control, teenagers say that guaranteeing confidentiality, making birth control free, and making birth control easy to obtain are most likely to influence their peers.* Guaranteeing confidentiality in obtaining birth control ranked first (78%) out of eight steps that were evaluated. Making it free of cost ranked second (75%) and making it easy to obtain ranked third (70%) out of the eight steps.

3 *When teenagers are asked to compare various methods of birth control, they overwhelmingly prefer the pill and the condom. No other method ranks anywhere close.* Girls tend to prefer the pill (63%), while boys tend to prefer the condom (53%). They view these methods as effective, safe, easy to use (in the case of the pill), and easy to buy (in the case of the condom).

4 *There is unmet demand for the birth control pill.* When the methods of birth control preferred by teenagers are compared with the actual methods most frequently used, it is apparent that many more prefer the pill than actually use it. Sixty-three percent of girls would prefer the pill, but only 38% of sexually active girls actually use the pill. There is much less fall-off in the case of the condom. Fifty-three percent of boys prefer the condom, and 47% of sexually active boys actually use that method.

5 *One barrier to increased use of the birth control pill may be the pelvic examination that is usually required by physicians and clinics.* Sixty-nine percent of girls say that this requirement frightens many girls away. A similar proportion of agreement (70%) was registered by those girls who have actually used the pill and who, presumably, have themselves undergone a pelvic exam. Thus, first-hand experience with the pelvic exam does *not* remove the fear of it.

6 *For some teenagers another barrier to increased use of contraceptive methods in general is cost.* When informed that most methods of birth control cost between $5.00 a month and $20.00 a month, one-third of all teenagers (33%) say this is too much for them to pay. While only a minority of all teenagers cite cost, they include a disproportionate number of those who are most at risk: 35% of black teenagers and 40% of Hispanic teenagers.

7 *An additional barrier to increased use of birth control is misinformation about the effectiveness and side*

effects of various methods. For instance, 39% of teenagers think that condoms are *in*effective in preventing pregnancy, or don't know. Seventeen percent think that withdrawal works *well* in preventing pregnancy. Of more than a dozen side effects of the pill mentioned by teenagers, those cited second and third most frequently were that it causes cancer (12%) and causes sterility (11%), neither of which is true.

8 *A further barrier to increased use of birth control is accessibility or perceived inaccessibility.* One way to increase accessibility would be to establish school-linked clinics where contraceptives could be obtained. Forty percent of teenagers endorse this idea. Somewhat more say that the clinic should be located close to the school (28%) rather than inside the school (12%), perhaps to ensure the confidentiality that they ranked as the number one step needed to increase use of birth control. Thirty-one percent of all teenagers think their *own* school needs such a clinic. These percentages are even higher among the groups for which access to contraception is most likely to be important. For instance, a majority of those who are sexually active favor the idea of school-linked clinics, as do a majority of black teenagers.

9 *If pregnancy prevention fails, then abortion remains as an option that teenagers want, on balance, to keep open as a possibility.* Like adult Americans, teenage Americans have mixed feelings on this subject, but on balance they favor the availability of abortion by a 47% to 40% ratio. The ambivalence that this reflects means that most teenagers do not look to abortion as the easy way out of an unwanted pregnancy or as any reason to neglect birth control in the first place. Pregnancy prevention remains the first priority.

10 *Finally, it would be very helpful to increase the number of teenagers who realize they have a lot at stake and a lot to lose by being involved in an unintended pregnancy.* The survey shows that most teenagers have high hopes for their careers and that teenagers overwhelmingly (94%) believe that they will succeed in life if they work hard. The survey also shows that those who objectively have the most to lose do use birth control more frequently. What is needed, then, is for more teenagers to understand that connection: how being involved in an unintended pregnancy can interfere with their hopes and dreams for success in their lives. ■

A Local Project To Reduce Teen Pregnancy

PAULINE FRAZIER
Assistant Executive Director, Durham YWCA

The Durham YWCA is spearheading a project that will use several creative approaches to this problem.

Children having children has become a major problem across the nation, including our own North Carolina. The incidence of pregnancy among adolescents has risen steadily in the past two decades. Unfortunately, the problem does not stop there. It results in an increase of school dropouts, teen suicide, deaths at birth, and other serious medical and psychosocial problems. The Durham Young Women's Christian Association (YWCA) along with three other local organizations is undertaking a project that will work directly with teenagers to test methods for reducing the number of teen pregnancies.

From the Durham YWCA, 809 Proctor St., Durham 27707.

The Problem Nationwide

Nationally, one in ten adolescent girls become pregnant each year; four out of ten will become pregnant once in their teens; two out of ten will give birth; one out of

seven will have an abortion; and one in ten pregnant teens will commit suicide. Pregnancy is the reason most often cited by female teenagers for dropping out of school. Eight out of ten women who first become mothers at age 17 or younger never complete high school.

Compared to women who become pregnant in their 20s, teenage mothers are less likely to be in the labor force and more likely to be on welfare, in part because the many who drop out of school tend to be unskilled. While teenagers become pregnant in increasingly alarming numbers, cutbacks in the very service programs they are likely to need assure a larger generation destined for poverty.

The Problem in Durham

The situation in Durham County is a reflection of the national picture. The county now ranks fifth in teen pregnancy rate among the state's 100 counties.

In Durham, in 1984, 53 of the 5,490 girls between the ages of 10 and 14 reported pregnancies. They had 37 induced abortions and 16 live births. Eleven percent (711) of the 6,417 teenage girls between the ages of 15 and 19 became pregnant. They had 431 induced abortions, 276 live births, and 4 fetal deaths.[1]

There was little or no reduction in maternal and child health (MCH) risk factors over 1983. The latest data reveal that among teens 15 to 19 years old, 13.6% of those delivering had low birth weight babies (5 lb 8 oz or less). This compares unfavorably with deliveries to those 15 to 44, in whom the low birth weight rate was 9.7%. Similarly, 15- to 19-year-old mothers had received late or no prenatal care in 43.6% of the cases, compared to only 17.7% for those 15 to 55 years of age. Fully 93.2% of the mothers aged 15 to 19 had one or more MCH risk factors.

Although the problem of teen pregnancy is very real there have been few comprehensive strategies for addressing it.

The Project

An integrated project is underway in Durham involving the Durham YWCA, the Coalition for the Prevention of Adolescent Pregnancy, the Center for Creative Health Education at North Carolina Central University (NCCU), and the Department of Health Education of NCCU. The project was funded by the Z. Smith Reynolds Foundation.

Each of these four components will accomplish the following objectives.

The Durham YWCA Role Models Program. This component seeks to reduce the number of teen pregnancies by providing each of 100 teen participants with an adult role model who acts as mentor, teacher, confidante, and skills developer. The adults will create opportunities for teens to learn skills in goal-setting, time management, and personal growth. A staff person will train the adults in counseling and crisis intervention.

Coalition for the Prevention of Adolescent Pregnancy. Organized seven years ago, the Coalition has 21 members, including Durham City and County Schools, the County Health Department, the Neighborhood Health Center, and the PTA Council. The Coalition will conduct parent seminars to form parent support groups, improve communication skills, explore attitudes, and deepen an understanding of the root causes of teen parenthood. A seminar program will target 50 adults initially, but will expand to reach churches, educators, health and social services, PTAs, etc.

Center for Creative Health Education. Established in January, 1986 with a grant from Z. Smith Reynolds, the Center has produced nine programs on such issues of concern to adolescents as teen pregnancy, alcohol, drugs, toxic waste, suicide, and apartheid. The programs organize teen production teams for drama, video, slides, music, and combinations of these media to be presented to schools, PTAs and community groups (one program was taped by the local cable station as part of a television special). The Center will use the same strategies to develop programs on the root causes of low self-esteem and on the consequences and causes of teen pregnancy and adolescent health problems, and to enhance critical thinking skills, decision-making and communication skills. The Center will shift from NCCU to the Durham YWCA under this project.

NCCU Department of Health Education. The Department will continue a Black male teen pregnancy project which operated last year. Identifying 57 Black adolescent boys who are opinion leaders and 50 Black fathers of children whose mothers are Black teens, the project will use organized discussion sessions to orient participants to the root causes of the problem, broaden knowledge, heighten awareness of sexuality, and formulate strategies to prevent adolescent pregnancy. A Hotline will also be implemented at NCCU. The adult group will focus on job and training opportunities as well as fulfilling a role as counselors.

Through education, role model counseling, skill development, employment, and self-esteem building, the project will work to reduce significantly the number of Durham teens who find themselves caught in the web of pregnancy and its resulting problems. ■

Reference

1 N.C. Office of State Budget and Management. Total resident pregnancies by county of residence, 1985. Raleigh: June 1985.

Beware the Devilfish

Stingray Envenomation

HARRY H. SUMMERLIN, JR., M.D.

Sculling in the loose sediment of our coastal waters, sounds, brackish backwaters and river mouths there lies a non-aggressive but venomous marine animal, the stingray; known since the time of Aristotle as the devilfish.

Rays range in size from several inches up to 12 by 6 feet. Most of the seven species in the Atlantic Ocean are small, up to 12 by 18 inches. They are found lying on top of the sand or partially submerged with only the eyes, spine and part of the tail exposed. They are scavengers and bottom feeders, feeding upon worms, mollusks and crustaceans.[1]

Stingray "attacks," about 2,000 per year in the United States,[2] are purely defensive. While wading in the shallows the unwary victim steps upon the devilfish and reflexly the powerful tail, bearing one to four stingers, whips upward. The sharp caudal spine is thrust into the foot or leg of the victim, producing a jagged puncture wound or a laceration and releasing venom into the wound.

Effects

The intense, searing, aching, deep pain quickly travels throughout the local tissues and spreads centrally. The retroserrated teeth and the powerful strike which can penetrate shoes, wet suits, flippers and even wooden boats, produces significant lacerations, depositing the stinger and venom sacs into the victim. Secondary bacterial infection is common. Fatalities have been reported, mostly in children secondary to intra-abdominal thoracic trauma.

The phosphodiesterase and serotonin-like substances produce pain that may last for up to 48 hours. Systemic manifestations may include generalized weakness, nausea, vomiting, diaphoresis, vertigo, syncope, headache, tachycardia, muscle cramps, fasciculations, paralysis, hypotension, dysrhythmias and even death.

From 944 Tunnel Road, Asheville 28805.

Treatment

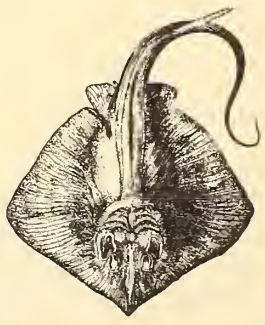
The treatment is immediate local cleansing with saline or sea water, then soaking in hot water to tolerance (115-120°F) for 30 to 90 minutes to relieve the pain and to attenuate the heat labile venom. Other heat labile venoms are produced by sea urchins, scorpion fish, and catfish.[3]

Cryotherapy is disastrous and there are no data to support the use of antihistamines or steroids.[1] Pain control with narcotics may be necessary if there are no contraindications. Local infiltration with 1% Lidocaine without epinephrine may give some pain relief.

Many times it is necessary that the devilfish spine be surgically excised. Tetanus prophylaxis is standard. Many consider prophylactic antibiotics with penicillin, first-generation cephalosporins, or trimethoprim-sulfamethoxazole to be indicated.

The best preventive technique against devilfish stings, if one must be wading in shallow waters, is to shuffle along to frighten off the shy, non-aggresive creature.

In summary, envenomation by a stingray requires prompt cleansing, soaking in hot water, pain relief with narcotics and/or 1% Lidocaine infiltration, excision of the retroserrated stinger, tetanus prophylaxis and antibiotics for secondary infection. ■



References

1 Auerback and Geehr. Management of wilderness and environmental emergencies. MacMillan, 1983:pp. 238-40.
2 Mills, Ho, Solbe and Trunsky. Current emergency diagnosis and treatment. Lange Medical Publications, 1985.
3 Emergencies. Nursing 85 books, Springhouse Corporation, 1985.

Physician Assistants in North Carolina, 1986

A Report of a Survey Sponsored by the North Carolina Academy of Physician Assistants

Dean L. Minton, PA-C, David M. Coniglio, PA-C, Jerry A. Heath, PA-C, Jeffrey A. Katz, PA-C, Wayne W. Vonseggen, PA-C

In May 1984 the *North Carolina Medical Journal* published the results of a survey of physician assistants in this state (Vonseggen WW and Bolles JF;45:304-8). This survey was conducted by the North Carolina Academy of Physician Assistants (NCAPA) in 1982 and gathered data on statistics, practice sites, salaries and related compensations, supervision models, and issues of concern to physician assistants and their employers. In 1986 the Public Education Committee of the NCAPA conducted another survey following a similar format. The purpose was to determine the present status of the profession in North Carolina and to document significant changes.

Demographics

A 75-question survey form was mailed in May 1986 to 600 physician assistants in North Carolina. This included all PAs registered with the N.C. Board of Medical Examiners (NCBME) and other physician assistants who are members of the state Academy but not required to register with the NCBME (those not in clinical positions and those employed by federal agencies such as the Veterans Administration). Three hundred ten returns were received (52%).

This is less than the 60% return in 1982, but it is more interesting to note that the survey was mailed to only 406 PAs in 1982. There has been a 48% increase in the number of physician assistants in North Carolina in the four years between 1982 and 1986.

A significant trend is in the male/female ratio. In 1982 70% of North Carolina PAs were men and 30% women. In 1986 the ratio shows a move toward parity with 58% men and 42% women. Those reporting that they have been working as PAs less than two years are divided 72% women and 28% men. Of those working from two to four years, 51% are women and 49% men, figures further indicating a trend toward a larger percentage of female PAs entering the workforce. The trend in PA program enrollment also demonstrates a shift toward the predominance of women. In the five-year period 1982-1986 the Bowman Gray Physician Assistant program enrolled 193 students of whom 80 (41%) were men and 113 (59%) were women. This program is typical of the trend in most of the programs throughout the nation.

There is still a predominance of caucasians in the profession (94%) with only 4% black and 2% others. There is also a trend toward older persons in the profession. In 1982 the average age of PAs was 33.4 years. In 1986 81% are over 30 while only 19% are under 30 years of age.

Ninty-one percent are graduates of a program of 24 or more months' duration. Two percent have had specialty training beyond the basic program.

Ninety-two percent are certified by the National Commission on Certification of Physician Assistants (an increase of 1% since 1982), even though the NCBME in 1983 dropped certification as a requirement for registration. Among those who have been working six or more years and so have had to take the comprehensive examination for recertification with the National Commission, 90% of respondents are certified. PAs and their practices apparently consider certification an important aspect of the profession although it is not a legal requirement for practice in the state. It is interesting that 70% of those responding feel passing the National Commission examination *should* be mandatory for registration.

Membership in professional organizations continues to

From the Public Education Committee, North Carolina Academy of Physician Assistants, 209 Shenandoah Drive, Winston-Salem 27103-5351.

increase. In 1982 76.5% of respondents were members of the American Academy of Physician Assistants (AAPA), and 53.4% were members of the NCAPA. In 1986 80% are members of the AAPA, 64% are members of the NCAPA, and 31% are members of a regional PA group within North Carolina. No intrastate regional groups were in existence in 1982. There are now regional chapters chartered by the NCAPA in Hickory, Greensboro, Winston-Salem, and the Lumberton/Whiteville/Wilmington area, and groups are being organized in Asheville and in the Triangle (Raleigh, Durham and Chapel Hill). An increasing number of PAs have their dues in professional organizations paid by their employers: 43% in 1982 and 50% in 1986.

Practice and Employment

There appears to be more stability in employment in 1986 than was reported in 1982. The average time in practice in 1982 was five years. Fifty-six percent of PAs in 1986 have worked more than five years. Thirty-nine percent have been in their present positions more than four years. Thirty-six percent have had only one job and 34% have had two. Nineteen percent have had three employers. There is very little change in these statistics since 1982.

This study shows that 57% of PAs are practicing in locations with populations greater than 50,000, while only 6% are in those with less than 5,000. This is consistent with national trends as reported by federal agencies. When the profession was established in 1965 it was seen as an answer to the problem of providing medical care to such underserved locales as remote and rural communities as well as inner-city sites. As more PAs have found employment in specialty practices they have moved to the urban locations of those practices. However, the number of PAs in underserved areas, according to a recent U.S. Department of Health and Human Services Report, is proportionately higher than that of physicians.

The general type of practice employing North Carolina PAs is compared in the following table:

	1982	1986
Family Practice	24% (59)	19% (59)
Internal Medicine	14% (34)	14% (42)
Emergency Medicine	10.7% (26)	7% (22)
Surgery	18.5% (45)	17% (52)
Other	32.5% (79)	43% (131)

The "other" category includes such practice sites as psychiatry, occupational medicine, OB/GYN, health clinics, and institutional care (educational, research, house staff). The practice employer configuration is as follows:

	1982	1986
Solo MD	22% (54)	21% (62)
Two MD Partnership	6.8% (16)	6% (16)
Group Practice	25% (65)	19% (54)
Hospital	27.4% (65)	29% (84)
Other (HMO, Industry, Educational)	19% (45)	25% (73)

The only significant change is in the "other" category reflecting the increased utilization of PAs in occupational medicine and the growing number of Health Maintenance Organizations (HMOs).

There is essentially no change in the percentage (63%) of physician assistants employed in positions described as mostly primary care. Most PAs have multiple areas of responsibility in their jobs. When PAs were asked to describe their principle function, 97% reported that they have clinical responsibilities, 30% administration, 33% teaching, and 15% research. This reflects a major expansion in the utilization of PAs in responsibilities beyond the clinical.

Sources of funding compare as follows:

	1982	1986
Private	52% (123)	46% (140)
State	19% (46)	18% (55)
Federal	7.6% (18)	10% (32)
Corporation	16.5% (39)	10% (32)
Other	3.8% (9)	16% (47)

"Other" includes educational institutions and reflects the most significant change. Three of the four medical schools in the state have significantly increased the number of physician assistants on their clinical and research staffs over the past four years.

Compensation and Benefits

In 1982 the reported average base salary (not including fringe benefits) for all PAs responding was $22,436. In 1986 63% reported base salaries greater than $25,000, with 30% earning more than $30,000. The higher salaries are paid most often to PAs in surgical practices: 46% earn over $30,000. Thirty-six percent of emergency medicine PAs earn more than $30,000, and 33% of those in the "other" category report salaries greater than $30,000. Of PAs in internal medicine practices, 31% earn more than $30,000 and 64% earn more than $25,000. Family practice PAs report salaries as follows: $20,000 to $24,999 — 47%; $25,000 to $29,999 — 25%; and $30,000 or more — 22%. The scales by practice remain unchanged, but salaries have increased generally by more than 30% in the past four years. Eleven PAs (seven women and four men) reported that they work at their professional jobs on a part-time basis (20 hours or less per week). Of these, four women and two men reported their salaries to be in the $10,000 to $14,999 range. Two women said their salaries were $20,000 to $24,999. Surprisingly, two men PAs working part-time said that their salaries were $30,000 or higher. Salary ranges appear to be higher for men than for women, with 54% of women earning

less than $25,000 while only 23.6% of men were in this range. This may be partially due to the shorter time most women PAs have been working.

Fringe benefits provided to PAs compare in the two surveys as follows:

	1982	1986
Life insurance (no charge)	54%	51%
Life insurance (group rate)	27%	16%
Personal health insurance (no charge)	53%	50%
Personal health insurance (reduced charge)	25%	30%
Family health insurance (no charge)	16%	15%
Family health insurance (reduced charge)	39%	40%
Disability insurance paid by employer	50%	45%
Profit sharing	22%	23%
Allotment for CME paid by employer	78%	78%
Professional organization dues	43%	50%
Recertification fees	46%	50%
Malpractice coverage	86%	80%
Pension plan, IRA, long-term investments	53%	50%
Time off to attend CME events	90%	92%
Do not use vacation time for CME events	81%	90%

While there are differences of a few percentage points in some categories, most of these fringe benefits in 1986 are very similar to those reported in 1982.

In 1986 23% of PAs had written contracts with their employers. However, 84% recommended written contracts between PAs and their employers. These figures are about the same as those reported in 1982.

Even though salaries have generally improved over the past four years, 39% of the PAs responding said they needed a second job to provide sufficient income to meet their needs. In 1982 43.5% reported a need for a second job.

Supervision

All physician assistants must be registered to a primary supervisor with the Board of Medical Examiners. This physician is the person responsible for services provided by the PA. In group practices there may be additional physicians designated as back-up supervisors. These must also be registered with the Board.

The following table shows a comparison of supervisors in 1982 and 1986:

	1982	1986
One supervising physician	31.5% (76)	30% (86)
Two supervising physicians	24% (58)	18% (53)
Three supervising physicians	11.6% (28)	14% (39)
Four supervising physicians	9.1% (22)	12% (35)
Five or more supervisors	22% (53)	26% (75)

The way a physician assistant is supervised has always been a concern. Forty-seven percent have their supervising physician on site all the time. Thirty-four percent have the physician on site 50% of the time, and 14% less than 50% of the time. Only 5% have their supervisor on site one day each week. In 1982 60% reported full-time supervision, 18% half-time, 12% less than half of the time, and 3% on site only one day each week.

The following table compares the method of supervision:

	1982	1986
Daily chart review by MD	54%	62%
Weekly chart review by MD	10%	11%
Sporadic chart review	10%	11%
Phone consultation as needed	33%	16%

This demonstrates a trend toward a level of supervision more consistent with recommendations of the Board of Medical Examiners. PAs appear to be generally satisfied with the degree of supervision (88%). Six percent feel they get too little supervision, 4% too much, 1% too strict, and 1% have personality conflicts that interfere with effective supervision. Ninety-five percent of respondents report a satisfactory relationship with their supervising physicians.

Issues

In 1982 physician assistants were asked to express opinions on issues of concern to the profession at that time. Some of those issues remain current concerns. We attempted to update questions to reflect concerns about the future of the profession in light of a projected physician surplus. Seven statements were given and respondents were asked to answer with their personal attitudes. "I am concerned about the longevity of the PA profession" brought a 62% positive response and 32% negative (6% uncertain). "The projected surplus of physicians will have a negative impact on PAs" brought nearly equal responses: 44% agreed, 45% disagreed, and 11% were uncertain. "There is little vertical mobility within the PA profession": 74% agreed, 20% disagreed, and 5% were uncertain. "I am satisfied with my decision to enter the PA profession": 82% agreed, 10% disagreed, and 8% were uncertain. "I am satisfied with the current mechanism of PA certification": 70% agreed, 26% disagreed and 4% were uncertain. "I am satisfied with the current mechanism of PA re-certification": 21% agreed, 67% disagreed, and 11% were uncertain. "PAs should be more autonomous in their roles in clinical practice": 37% agreed, 51% disagreed and 12% were uncertain.

The change in utilization of physician assistants from principally primary care practices to specialties and subspecialties has given rise to some of the dissatisfaction with the re-certification process. Examinations are general in nature and oriented to primary care. The majority agree this is a good method for initial certification. Because so many PAs are employed in specialty and subspecialty practices, the primary-care-oriented examination employed by the Na-

tional Commission on Certification of Physician Assistants is viewed by many PAs to be inadequate (and unfair) for testing professional competence.

It appears that the majority of North Carolina PAs are satisfied with their dependent practitioner role which has been frequently restated as policy by the AAPA.

An improved climate of acceptance of physician assistants by the medical community of North Carolina is reflected in the current estimation of employment opportunities for PAs as compared to three years ago. The following compares responses:

	1982	1986
Much better	9.4%	13%
Slightly better	21.4%	26%
About the same	33.5%	46%
Slightly worse	23.7%	12%
Much worse	12.1%	3%

In 1982 20% reported encountering active opposition to the PA profession, but only 12% reported such encounters in 1986.

One interesting aspect of continuing training which was not reported in 1982 concerns cardiopulmonary resuscitation (CPR) and Advanced Cardiac Life Support (ACLS) certification. Ninety-nine percent reported having CPR training and 45% are current. Fifty percent of the PAs responding have had ACLS training and 15% hold current ACLS certification.

PAs appear to continue to be interested in all levels of medical concerns. Ninety-one percent reported their primary supervising physician to be a member of the North Carolina Medical Society. This is a notable increase from the 78% reported in 1982. Seventy-four percent of responding PAs said they would join the Medical Society as Associate Members if given the opportunity, compared to 81% in 1982. Perhaps the efforts of the NCAPA to establish regional chapters and thus increase the availability of continuing medical education has lessened the urgency of need for affiliation with the Society.

Physician assistants continue to feel that the NC Board of Medical Examiners should have a formal advisory committee to assist in all matters pertaining to PAs (96% of responders), and overwhelmingly agree that such a committee should be composed of a combination of PAs, supervising physicians, and representatives from the two PA training programs in North Carolina. It is good to note that in the past two years informal meetings have been taking place between the Board of Medical Examiners and the Board of Directors of the North Carolina Academy of Physician Assistants. These have resulted in improved communications in both directions and mutually beneficial exchange.

Summary

The 1986 NCAPA Survey confirms that the physician assistant profession is a rapidly growing, highly effective, essential element in medical care in the State of North Carolina. Not only has the number of PAs practicing grown by 48% in the past four years, but acceptance of the concept and role of the PA is widespread among all aspects of the medical community of the state — consumers and providers alike. There are definite changes in the ways PAs are being utilized, necessitated by changes in delivery systems, advances in technology, and reimbursement by Medicare for services provided by PAs in certain settings. Action by the 99th U.S. Congress authorized that effective January 1, 1987, the practices employing PAs could be reimbursed by Medicare for services provided by physician assistants in nursing homes, in hospitals and in surgery. This action has greatly increased the potential utilization of PAs in geriatric medicine.

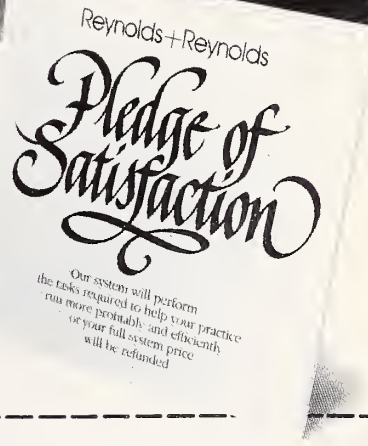
The results of the survey also point out areas that need further effort to improve. These include better modes of supervision, increased compensation appropriate to higher educational standards, and increased professional expectations. It is hoped that the data gathered will be helpful to physicians who may be considering hiring physician assistants.

Further information may be obtained from:
Dean L. Minton, B.A., M.Div., PA-C
Chairman, Public Education Committee
North Carolina Academy of Physician Assistants
209 Shenandoah Drive
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Paul Becherer, M.D.

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> What, never?
> No, never.
> What, *never?*
> Hardly, ever!
>
> Sir William S. Gilbert
> *H.M.S. Pinafore,* Act I

Vibrio organisms which are distributed throughout much of the surface waters of the world have for decades been associated with gastrointestinal illnesses. Recently a group of halophilic (salt requiring) Vibrio species has been implicated in serious soft tissue infections in people along the Atlantic and Gulf Coast including the coast of the Carolinas. These gram negative, curved, encapsulated, flagellated rods such as *Vibrio vulnificus, V. parahemolyticus,* and *V. alginolyticus* are common inhabitants of the coastal waters, thriving during the summer and fall in environments of relatively low salinity.

Vibrio Infections

In immunocompromised patients such as those with chronic liver disease, leukemia, diabetes mellitus, and those receiving steroid therapy, *Vibrio parahemolyticus* and *V. vulnificus* have the ability to cross the intestinal mucosa and invade the blood stream. This occurs after ingestion of raw, contaminated filter feeders such as oysters. Instead of presenting with gastrointestinal symptoms, patients so afflicted develop dramatic chills, fevers followed by hypotension (30%), and, over the course of one to two days, cutaneous foci (75%). These cutaneous lesions erupt as erythematous tender foci predominantly on the lower extremities and rapidly evolve to vescicles before eventually becoming necrotic ulcers. Cultures are occasionally positive for the Vibrio species, and pathology shows necrotizing vasculitis which leads to tissue ischemia and bacterial invasion. *V. vulnificus* has been demonstrated to make an exotoxin which is cytolytic and increases vascular permeability. It is probably responsible for some of these manifestations.

From the Division of Nephrology, the University of North Carolina School of Medicine, Chapel Hill 27514.

More commonly, Vibrio infections occur as a consequence of contamination of minor wounds, or by direct inoculation, when patients are handling marine life such as oysters or shrimp. These creatures contain 10^5 organisms per gram of meat. Erythema, swelling, and ecchymosis quickly develop, with some infections leading to necrosis of the skin and the subcutaneous fat due to the necrotising vasculitis. As noted, those with underlying disease are more likely to become bacteremic leading to hypotension and toxicity.

Therapy

Successful therapy of fulminant disease requires early recognition of the possibility of halophilic Vibrio species as a potential etiology, and it requires quick action. Routine supportive care with massive fluid resuscitation is often needed. Standard mediums such as MacConkey's agar which contains sodium chloride, or Thiocitrate bile salt (TCBS) medium, will support the organism. Since these organisms ferment lactose, they may be disregarded as non-enteric pathogens unless fully identified. While *V. vulnificus* is sensitive to penicillins, the other organisms may be resistant. Therefore treatment with tetracycline or chloramphenicol, and potentially erythromycin or an aminoglycoside, may be required.

In addition,surgical débridement and even amputation of the affected limb may be necessary. Despite appropriate treatment, nearly 50% of those who become bacteremic, i.e. those with an underlying illness, succumb. Therefore those who are immunocompromised should be warned about consumption of raw seafood and about unnecessary exposure to marine crustaceans. ■

References

1 Chang W and Pien F. Marine-acquired infections: hazards of the ocean environment. Postgrad Med 1986;80:30-2.
2 Howard R, et al. Necrotizing soft tissue infections caused by marine Vibrios. Surgery 1985;98:126-30.
3 Bonner J, et al. Spectrum of Vibrio infections in a Gulf Coast community. AIM 1983;99:464-9.
4 Gray L and Kreger A. Mouse skin damage caused by cytolysin from *Vibrio vulnificus* and by *V. vulnificus* infection. J Inf Dis 1987;155:236-40.

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Otitis media due to *S pneumoniae, Haemophilus influenzae,* staphylococci, streptococci, and *Neisseria catarrhalis*

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Bone infections caused by staphylococci and/or *Proteus mirabilis*

Genitourinary tract infections, including acute prostatitis, caused by *Escherichia coli, P mirabilis,* and *Klebsiella* sp.

Note—Culture and susceptibility tests should be initiated prior to and during therapy. Renal function studies should be performed when indicated.

Contraindication: Keflet is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: BEFORE CEPHALEXIN THERAPY IS INSTITUTED, CAREFUL INQUIRY SHOULD BE MADE CONCERNING PREVIOUS HYPERSENSITIVITY REACTIONS TO CEPHALOSPORINS AND PENICILLIN. CEPHALOSPORIN DERIVATIVES SHOULD BE GIVEN CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS.

SERIOUS ACUTE HYPERSENSITIVITY REACTIONS MAY REQUIRE EPINEPHRINE AND OTHER EMERGENCY MEASURES.

There is some clinical and laboratory evidence of partial cross-allergenicity of the penicillins and the cephalosporins. Patients have been reported to have had severe reactions (including anaphylaxis) to both drugs.

Any patient who has demonstrated some form of allergy, particularly to drugs, should receive antibiotics cautiously. No exception should be made with regard to Keflet.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C difficile.* Other causes of colitis should be ruled out.

Usage in Pregnancy—Safety of this product for use during pregnancy has not been established.

Precautions: *General*—Patients should be followed carefully so that any side effects or unusual manifestations of drug idiosyncrasy may be detected. If an allergic reaction to Keflet occurs, the drug should be discontinued and the patient treated with the usual agents (eg, epinephrine or other pressor amines, antihistamines, or corticosteroids).

Prolonged use of Keflet may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Keflet should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

Indicated surgical procedures should be performed in conjunction with antibiotic therapy.

As a result of administration of Keflet, a false positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—The daily oral administration of cephalexin to rats in doses of 250 or 500 mg/kg prior to and during pregnancy, or to rats and mice during the period of organogenesis only, had no adverse effect on fertility, fetal viability, fetal weight, or litter size. Note that the safety of cephalexin during pregnancy in humans has not been established.

Cephalexin showed no enhanced toxicity in weanling and newborn rats as compared with adult animals. Nevertheless, because the studies in humans cannot rule out the possibility of harm, Keflet should be used during pregnancy only if clearly needed.

Nursing Mothers— The excretion of cephalexin in the milk increased up to 4 hours after a 500-mg dose; the drug reached a maximum level of 4 μg/mL, then decreased gradually, and had disappeared 8 hours after administration. Caution should be exercised when Keflet is administered to a nursing woman.

Adverse Reactions: *Gastrointestinal*—Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely. The most frequent side effect has been diarrhea. It was very rarely severe enough to warrant cessation of therapy. Dyspepsia and abdominal pain have also occurred. As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.

Hypersensitivity— Allergic reactions in the form of rash, urticaria, angioedema, and, rarely, erythema multiforme, Stevens-Johnson Syndrome, or toxic epidermal necrolysis have been observed. These reactions usually subsided upon discontinuation of the drug. Anaphylaxis has also been reported.

Other reactions have included genital and anal pruritus, genital moniliasis, vaginitis and vaginal discharge, dizziness, fatigue, and headache. Eosinophilia, neutropenia, thrombocytopenia, and slight elevations in SGOT and SGPT have been reported.

PV 2211 DPP [111786]

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Medical Student's Disease Syndrome

Gary L. Roark

I learn of all these pathogens in classes every day.
It's amazing how our bodies learn to keep those germs at bay.
Yet, every time I turn around, I get a hint or two,
Exotic signs and symptoms — it's no ordinary flu.
My teeth will start to itch, or it's a cramp down in my spleen.
So many things that it could be . . . it makes me sorta green.

I stay awake throughout each class. My notes, I later check.
But this lecture chair is killing me! There's a pain back in my neck.
I begin to think that what I have is spinal meningitis,
Or some awful, dreadful illness that they tell us just to frighten us.
Or maybe it's a little one, like osteosarcoma.
But wait a minute! Now I know: it's Medical Student Syndroma!

Or, take the time just yesterday, in the middle of a test:
I'd remembered only half the stuff, forgotten all the rest.
Have I hippocampal lesions, or an infection like frambesia?
Have I epileptic seizures, or is it retrograde amnesia?
Oh, shoot! It'd put my mind at rest, or maybe more at eases,
If I could just remember what this blasted, darn Disease is!

From Bowman Gray School of Medicine, Wake Forest University, Winston-Salem 27103.



Seated, left to right, Neil P. Dubner, M.D., Medical Director; D. Wilfred Abse, M.D.; James K. Barnes, M.D.; Ronald L. Myers, M.D. Standing, left to right, Orren LeRoyce Royal, M.D.; Morgan E. Scott, M.D.; Don L. Weston, M.D.; Arthur E. Kelley, M.D.; G. Paul Hlusko, M.D.; Hal G. Gillespie, M.D.; Basil E. Roebuck, M.D.

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Letters to the Editor

On the science and the art of medicine

To the Editor:

Physicians do not treat disease. They treat individuals. To be a truly good physician one needs more than a knowledge of medicine. In recent decades there has been a growing belief that the emphasis on science would ultimately render obsolete individualism and subjectivity, but despite the dramatic technological advances it remains the fate of physicians to experience uncertainty and doubt, for it appears certain that the human condition will never be totally explained in biochemical terms. The practice of medicine must therefore embrace the scientific method, but the art of medicine should not be abandoned.

Physicians, like all other humans, wish for the certainty that science appears to promise, but science ignores values and individuality.

The words of Hippocrates are still valid. "Life is short, the art long, the occasion fleeting, experience fallacious, and judgments difficult." Medicine must embrace more than science.

The rise of commercialism, the proliferation of for profit oriented facilities, advertising, cost containment, third party payors, and the malpractice environment have emphasized technology rather than humanism. This has resulted in a depersonalization of the doctor-patient relationship a loss of samaritanism. The good physician must, however, be more than a competent technician, more than a cost effective health care provider.

The dramatic technological advances have, to the surprise of many, created many ethical and moral questions for which science has no answers. Central issues involve freedom, self determination, quality of life. The rights and obligations of both physicians and patients must be addressed. Consent, and the increasing involvement of patients, their families, and their physicians in providing, withholding, accepting or refusing treatment, are not scientific issues. Science provides a strong and solid intellectual basis, and may even be central to the practice of medicine, but alone it is not enough.

Walter S. Feldman, M.D., J.D., F.C.L.M.
6500 Raquet Wood Court
Charlotte 28226

A comment on Dr. Linfors's forum

To the editor

As a newcomer to North Carolina, I was particularly pleased to read The Physician's Forum "Policing the Practice of Medicine." Granting that each state tackles these problems in a little different way, it may be beneficial to address this issue of physician discipline by organizing it into three areas of problem physicians — "the sick, the bad, and the ignorant."

The Sick. These individuals should be treated. Alcoholism and substance abuse are diseases which can be treated. We should offer no less compassion and assistance to our colleagues than we would to our patients, even though they do not spontaneously rush to us for help.

The Bad. Some physicians unfortunately become involved in illegal activities. Dealing with this is generally a function of the state, and it is not an option for us to decide what we want to do when someone has broken the law.

The Ignorant. Some physicians are not adequately trained or have not kept current in the field. While medical societies certainly may offer continuing education, and may even serve to speak to the adequacy of certain courses in organized educational efforts, initial requirements of credentialing for license are a state function. The issue of assessing continued current competence at some later date after initial training is a very controversial topic which I shall not address here.

The above tripartite organization may be useful in dealing with the question of physician discipline. Difficulties frequently arise when the distinctions between Sick/Bad and Sick/Ignorant become very blurred, such as the physician who writes illegal prescriptions for himself or others to support his own addiction, and the physician who may be intellectually inadequate because of mental illness or dementia. Keeping these issues focused and separate can make the approach to them more logical and effective.

I do applaud our society for addressing these major issues. However, longing for the good old days and "simple personal ethics," while desirable, are not enough to satisfy even the demands of the 1980s let alone the demands of the 1990s. At this time there are extremely effective models for dealing with physical substance abuse and mental illness that have been developed and proven by other states. It is the one part of the Sick/Bad/Ignorant issue of physician discipline that we as a society can and should be addressing vigorously.

Brian R. Nagy, M.D.
Medical Director
Mecklenburg Mental Health Center
Charlotte 28211

Ophthalmology Guidelines

To the Editor:

Please find enclosed a letter which I recently composed as President of the Eastern Carolina Ophthalmological Society and forwarded to all members of the Board of Medical Review of North Carolina as well as to the Members of the

Medical Review Committee of MRNC. The letter urges adoption of strict pre and post surgical criteria for cataract surgery patients. These guidelines are based upon recommendations from the American Academy of Ophthalmology and are presently being considered in various similar forms in all fifty states.

These guidelines were evaluated extensively by the North Carolina State Ophthalmological Society where even tighter restrictions upon the State's ophthalmologists were encouraged. The State Ophthalmological Society felt that there was a strong need for stringent criteria governing the pre and post surgical care of cataract surgery patients — the most common surgical procedure in America.

I believe my accompanying letter is self-explanatory as it urges all members of the Medical Review Committee and Board members of MRNC to adopt these stringent guidelines *intact*. This is the first time that the professionals in a medical specialty area have come together and requested the imposition of tight controls on their own practice of medicine. This is an unprecedented step which most of the ophthalmologists in this state feel is necessary to ensure a minimum level of quality to the citizens of our state.

Scott P. Bowers, M.D.
Carolina Clinic, Inc.
1700 S. Tarboro Street
Wilson 27893

Dr. Bowers's letter to MRNC:

I am writing to you as president of the Eastern Carolina Ophthalmological Society. It has recently come to the attention of the society that a list of procedures has been developed by HCFA for which 100% prospective review must be performed by the various state PRO agencies. It seems likely that cataract surgery will be high on this list and will, therefore, be subject to 100% prospective review. The Eastern Carolina Ophthalmological Society would like to formally endorse the PRO guidelines recently proposed by the North Carolina State Society of Ophthalmology.

The State Ophthalmological Society has very carefully considered this issue and proposed a set of PRO guidelines which insure the highest quality of care for all patients in the State of North Carolina. I am sure you have received a copy of these proposed guidelines from the State Ophthalmological Society and have reviewed them in detail. Briefly, these guidelines insure that every patient who undergoes cataract extraction in the state of North Carolina has been examined preoperatively by his operating surgeon. The old medical school tenet "when all else fails, examine the patient" has been almost totally abandoned by certain eye surgeons in this state who routinely operate on patients they have never examined. This is unthinkable, but unfortunately occurs on a wholesale basis in certain areas of the state. Patients are often sent in with "preoperative examinations" performed by nonphysicians. This is not only improper and a violation of the Ethics Code of the American Academy of Ophthalmology, but is quite possibly illegal. The North Carolina Department of Human Resources, Division of Faculty Services, has issued a booklet entitled "Rules and Regulations Governing the Licensure of Ambulatory Surgical Facilities." Page eight of this manual states "any patient undergoing general or regional anesthesia shall, prior to the surgery, have a history and physical examination, relative to the intended procedure, performed by a licensed physician." From a quality of care point of view, it is imperative that patients be examined by their operating surgeon before they are subjected to surgical procedures. This principle is so basic to good medical care that it should go without saying. Unfortunately, certain providers in the state have found it economically advantageous to do huge volumes of surgery on patients that they have never examined and have no intention of ever seeing again.

The surgeon is asked to certify that the patient is truly in need of the surgery — not simply because of the presence of a lenticular opacity. A basic visual acuity guideline has been adopted which is fair and reasonable. Those patients with 20/40 vision or better should probably not routinely be scheduled for cataract surgery. With 20/40 vision, any elderly patient can hold an unrestricted driver's license in all fifty states of the union and drive the maximum speed limit on interstates day or night. These guidelines were developed by all fifty states decades ago as the minimum visual acuity for the safe operation of a motor vehicle. This visual acuity level has real value in that it was not arbitrarily picked out of thin air, but has been used as a benchmark for minimum visual requirements by all fifty states for many many years. When patients have visual acuity at 20/50 or worse, their driving privileges begin to be curtailed such that their mobility is restricted. This is probably a reasonable point at which to consider cataract extraction for the elderly patient. If a patient can drive to an outpatient surgical center day or night with an unrestricted driver's license (visual acuity 20/40 or better), it is most difficult to justify subjecting this patient to a surgical procedure. Certain exceptions should be made — i.e. for commercial airline pilots or persons with occupations demanding visual acuity at or better than 20/40. These patients should be considered on a case by case basis, and a second opinion would probably be indicated in all patients with a visual acuity of 20/40 or better.

The PRO guidelines also require that surgeons not undertake surgical responsibility for patients and then abandon them to the care of nonmedical technicians, optometrists, nurses or other nonphysicians. The postoperative care of cataract surgery patients is within the unique competence of an ophthalmologist, and the operating surgeons should and must provide adequate postoperative care to their patients. This is a basic tenet of medicine which should not be overlooked in the field of cataract surgery. Chiropractors do not routinely assume the postoperative care of laminectomy or brain surgery patients; podiatrists do not routinely assume the postoperative care of arthroscopy or hip replacement patients; dentists do not routinely assume the post-

operative care of head and neck surgery patients or oral cancer patients ; and cosmetologists do not routinely assume the postoperative care of patients who have had procedures for various types of dermal pathology — despite the fact that these activities may be technically legal. If a physician is simply too busy to provide adequate postoperative care to his patient, he should not be allowed to do the surgery in the first place. This is a simple quality of care issue which is true for all medical specialties. This is 1986 — not 1940. There are several geographic areas of the state and there are *no areas* in North Carolina where a patient is not within ten to fifteen minutes driving time of a Board certified ophthalmologist. Arguments which promote the provision of all postoperative care of cataract surgery patients by nonmedical technicians (i.e. optometrists) often tout the "increased convenience" that this affords these patients. It is quite obvious that these arguments are made to facilitate certain unscrupulous surgeons who routinely undertake surgical responsibility for patients who they have not examined preoperatively and have no intention of ever seeing during any of the postoperative period. From the point of view of quality of care, it is always in the patient's *best interest* to have his postoperative care provided by his operating surgeon. Because there are so many able and qualified Board certified ophthalmologists in this state who are willing to adhere to these standards, this should be the minimum acceptable level of quality offered to the elderly citizens of the State of North Carolina.

The last provision in the PRO guidelines proposed by the North Carolina State Ophthalmological Society entails a provision by which the signed PRO prior approval form must be received in the office of Peer Review of North Carolina and reviewed prior to the issuance of an approval for the patient's surgery. This provision is designed to insure that all patients who are considered for cataract surgery are reviewed *in writing* by impartial reviewers of the PRO prior to the surgery. Because the physician's signature will be required on this form, it would effectively prohibit economically interested parties or nonmedical technicians (i.e. optometrists or nurses) from phoning Peer Review of North Carolina and obtaining prior approval for one of these high volume surgeons. In addition, a week or two delay in receiving a written approval from Peer Review of North Carolina would allow the patient to consider the surgery carefully with his family and friends and decide whether the surgery was indeed necessary. As you know, many patients considering elective surgery properly decline such surgery after careful consideration. If surgeons are allowed to examine elective surgery patients at 9 o'clock in the morning and have them on the operating table at 10:15 in the morning, significant volumes of patients will thus be generated — denying these patients an adequate time to reflect and consider their therapeutic options. Therefore, the proposal to demand a written prior approval form signed by the operating surgeon is another step in guaranteeing the highest quality of care for all patients.

The Eastern Carolina Ophthalmological Society has gone through the above mentioned PRO proposals point by point and strongly endorses each one. The Eastern Carolina Ophthalmological Society had its most recent meeting on December 10, 1986 in Greenville and when the issue of these proposed PRO guidelines was put forth for final consideration, it was adopted unanimously without a single dissenting vote. I was asked by the Society members at that point to write a letter of support for these proposed PRO guidelines from the Eastern Carolina Ophthalmological Society to Peer Review of North Carolina. It is strongly felt by all members of the Society that these guidelines will greatly improve the quality of care for patients here in North Carolina and largely eliminate much of the unnecessary or ill-advised surgery now being performed in this area. These guidelines will insure that every elderly patient in the State of North Carolina — no matter where they are from or who they see — will receive an adequate preoperative examination and will truly be in need of the surgery proposed. In addition, the patient will receive adequate preoperative care by his operating surgeon and will be given time to reflect and consider his therapeutic options before agreeing to the elective surgery. Although this two page check-off form will take a minute or two to fill out and sign for each proposed cataract surgery patient and does represent a moderate inconvenience for the ophthalmologists of North Carolina, it is strongly felt by the Society members that any weakening of these proposed guidelines could drastically cut the quality of care offered to the citizens of the State of North Carolina.

Peer Review of North Carolina has a great opportunity to elevate the level of care for patients in this state and to eliminate many abuses which have allowed the wholesale performance of unnecessary procedures and abandonment of surgical patients by their operating surgeons. The Eastern Carolina Ophthalmological Society strongly encourages you to adopt the PRO guidelines proposed by the North Carolina State Ophthalmologic Society *intact*. Please do not hesitate to call my office at the above listed address and number if I can provide any further information to you which you might find helpful in hammering out final PRO guidelines for cartaract surgery.

Respectfully submitted

Scott P. Bowers, M.D.
President
Eastern Carolina Ophthalmological Society

Insurance snafu

To the Editor:

Here is a perfect example of how bureaucracy (and occasionally computers) make us old, or in some cases, dead, before our time. I have enclosed a copy of the letter I received, as well as a copy of my return letter. I would be interested in knowing if many of our co-workers have experienced similar Medicare boo-boos.

Dear Provider:

This claim contains services for 9-1 to 10-28-86 which is after the patient's date of death of 8-00-86.

Please verify and furnish us corrected information for any/all of the following:

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If the information needed cannot be obtained prior to 3-11-87 the claim will be processed on the basis of the information on hand.

Sincerely,

Assistant Claim Supervisor

Dear Assistant Claim Supervisor:

I am writing on behalf of both Blowing Rock Medical Clinic and Blowing Rock Hospital. Somehow a remarkable error has occurred. Despite your records to the contrary, the patient is indeed *alive* and a patient in the Extended Care Facility here in Blowing Rock. Now, the date of death you have listed is 8-00-86. I have never seen any such date for any month. Her date of birth is 7/18/27. If you would like, I will send a Polaroid picture of her for your files. I am sure her family would be most interested to know of her demise last year and would wonder whom they had been visiting, lo these many months.

Please let us know if this snafu is not correctable.

Sincerely,

John D. Davis, Jr., M.D.

About the journal's new look

To the Managing Editor:

Congratulations.

As I was checking the March journals, I noticed the change in North Carolina's cover. It was no longer blue and white. Your new cover is very impressive.

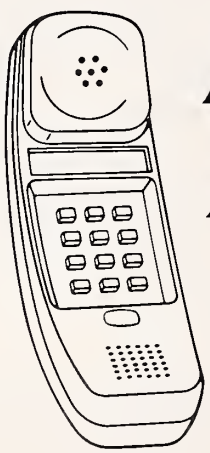
Once again, congratulations and keep up the good work.

Miriam Polich, Executive Vice President
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To the Managing Editor:

I must compliment you on the redesign of your journal!

Susan Flanigan Gold
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Benjamin Howard Lee (STUDENT), 2050 Craige St., Apt. #8, Winston-Salem 27103
Anne Theresa Rogers (AN), 300 S. Hawthorne Rd., Winston-Salem 27103

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Coley James Cassiano (EM), 1016-A Professional Village, Greensboro 27401

Halifax
Susan A. Watson (OPH), 115 Long Circle, Roanoke Rapids, 27870

Henderson
Stuart Lewis Glassman (GS), 502 7th Ave. West, Hendersonville 28739

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Doris Constance M. Bullen (P), PO Box 56, Dartmouth Clinic, PA, Southern Pines 28387
John Andrew Hennessen (ORS), PO Box 1650, Pinehurst 28374
Harry Jay Kicherer (R), 885 St. Andrews Dr., Pinehurst 28374

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Janice Therese Busher (IM), 133 Antler Rd., Greenville 27834
Charmaine Delores Gray (PD), PO Box 238, Hookertown 28538
Julius Quintin Mallette (OBG), ECU Dept. of OB-GYN, Greenville 27835
Charles Timothy Monroe (PD), 1825 W. Sixth St., Greenville 27834
Pragna Nina Sehgal (FP), ECU Dept. of Family Med., PO Box 1846, Greenville 27835

Randolph
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IN STATE

May 13
Common Diagnostic Problems in Surgical Pathology: A Practical Approach
Place: Greenville
Fee: $55
Credit: 7 hours Category I AMA
Info: The Office of CME, ECU School of Medicine, P.O. Box 7224, Greenville 27835-7224. 919/758-5200, ext 208

May 15

Adolescent Health Issues: The New Morbidities
Place: Durham
Credit: 8 hours Category I AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

May 19

Infectious Disease Seminar
Place: Asheville
Credit: 4 hours Category I AMA
Info: Dr. Felix A. Sarubbi, 704/298-7911 or Dr. Harry A. Gallis, 919/684-3279

May 22

4th Annual Eye Conference — "Ocular Tumors"
Place: Winston-Salem
Info: Kirk Huske, Bowman Gray School of Medicine of Wake Forest University, Graylyn Conference Center, Winston-Salem 27103. 919/748-3971

June 3

Duke CME Series
Place: Durham
Credit: pending
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

June 5-7

Duke Eye Center Alumni Spring Meeting
Place: Chapel Hill
Credit: 8 hours Category 1 AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

June 9

1987 Series — Duke Tuesday
Place: Durham
Credit: 5 hours Category I AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

June 10

Jay M. Arena Symposium: A Day of Toxicology and Poison Prevention
Place: Durham
Credit: 6 hours Category I AMA
Fee: $10
Info: Chris Rudd, Pharm.D., 919/681-4574

June 11-13

34th Annual Mountaintop Medical Assembly
Place: Waynesville
Info: George W. Brown, M.D., Mountaintop Medical Assembly, Waynesville 28786. 704/456-6021

June 15-17

Surgery for Coronary Artery Disease
Place: Durham
Fee: $460 ACC members; $525 others
Credit: 17 hours Category I ACCME
Info: Registration Secretary, Extramural Programs Dept, American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 800/253-4636; in MD or AK 301/897-5400

July 3-5

17th Annual Sports Medicine Symposium
Place: Wrightsville Beach
Info: W. Alan Skipper, 919/833-3836 or 800/722-1350

July 13-15

U.S. Olympic Festival Sports Medicine Conference: Part II, Athletic Injury Prevention and Treatment
Place: Durham
Credit: pending
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

July 13-17

29th Annual Postgraduate Course/Morehead Symposium
Place: Durham
Credit: 26 hours Category I AMA; AAFP 24.75 prescribed
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

July 27-31

10th Annual Radiology Postgraduate Course
Place: Atlantic Beach
Credit: 20 hours Category I AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

August 14-18

Family Physicians Weekend
Place: Wrightsville Beach, NC
Credit: 12 hours AAFP
Info: Paula Baker, Meeting Coordinator, North Carolina Academy of Family Physicians, P.O. Box 18469, Raleigh 27619. 919/781-6467

Nursing

Except where otherwise noted, contact Nettie Wilburn, CPS, Office of Continuing Education, University of North Carolina, Chapel Hill 27514. 919/966-3638.

May 13-14

The Systematic Process of Instructional Development
Place: Chapel Hill
Credit: 13.2 CEUs pending
Fee: $110

June 1-5

Preparation for NCLEX-RN
Place: Chapel Hill
Credit: 3.39 CEUs
Fee: $75 UNC-CH students: $85 others

June 1-19

Summer Institute: Gerontology for Nurse Educators
Place: Chapel Hill
Credit: 3 CEUs
Fee: $3

OUT OF STATE

May 8-10

6th Annual MCV Cardiology Conference
Place: Williamsburg, VA
Fee: $325
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

May 11-15

Consultant's Course in Cardiology
Place: New York, NY
Credit: 32 hours Category 1 AMA
Fee: $425 ACC members; $525 others
Info: Registration Secretary, Extramural Programs Dept., American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 800/253-4636; MD & AK, 301/897-5400 ext 226

May 14-16

Vascular Surgery 1987: Third International Vascular Symposium
Place: New York, NY
Fee: $400
Credit: 24 hours Category I AMA
Info: Ann J. Boehme, Assoc. Director for CME, Long Island Jewish Medical Center, New Hyde Park, NY 11042. 718/470-8650

May 15

3rd Annual Symposium on Geriatric Medicine
Place: Norfolk, VA
Credit: 5 hours Category I AMA
Fee: $35-55
Info: Elaine Halverson, EVMS-CME, P.O. Box 1980, Norfolk, VA 23501. 804/446-5243

May 16

Post Polio Syndrome Symposium
Place: Bristol, TN
Info: Ramona Miller, Office of CME, Quillen-Dishner College of Medicine, Johnson City, TN 37614. 615/929-6204

May 17

Annual Meeting, NC Chapter of American College of Surgeons
Place: Myrtle Beach, SC
Credit: 8 hours Category I AMA
Fee: $50
Info: Michael C. Rowland, M.D., F.A.C.S., Secretary-Treasurer, NC-ACS, P.O. Box 2000, Pinehurst 28374. 919/295-2232

May 18-19

14th Annual Hans Berger Day and EEG Symposium
Place: Richmond, VA
Fee: $250
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

May 19-22

Cell Calcium Metabolism '87: Physiology, Biochemistry, Pharmacology, and Clinical Implications
Place: Washington, D.C.
Info: Dr. Gary Fiskum, Dept. of Biochemistry, The George Washington University of Medicine and Health Sciences, 2300 Eye St. NW, Washington, D.C. 20037.

May 22-24

2nd Annual Duke Anesthesiology Conference: Oxygen Transport in the Clinical Setting
Place: Charleston, SC
Credit: 13 hours Category I AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878; outside NC 800/222-9984

May 23-25

Gynecologic Urology and Pelvic Surgery
Place: Williamsburg, VA
Fee: $260
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Sta., Richmond, VA 23298-0001. 804/786-0494

May 26-30

Fifth Annual Cardiology Update
Place: Honolulu, HA
Fee: $395
Info: Lisa Krehbiel, 30131 Town Center Dr., Ste. 215, Laguna Niguel, CA 92677. 714/495-4499

May 30

Management of Tough Problems in Psychiatric Practice
Place: Gatlinburg, TN
Info: Ramona Miller, Ph.D., Program Coordinator, Office of CME, Quillen-Dishner College of Medicine, Johnson City, TN 37614. 615/929-6204

May 30-June 2

International Conference on Missionary Medicine
Place: St. Simons Island, GA
Fee: $100-225
Info: Registrar, ICMM, MAP International, Box 50, Brunswick, GA 31520. 912/265-6010, ext 321

May 31-June 4

44th Annual Meeting, American Society of Hospital Pharmacists
Place: Washington, D.C.
Info: ASHP, 4630 Montgomery Ave., Bethesda, MD 20814. 301/657-3000

June 1-5

Basic Mechanisms of Cardiovascular Diseases: Implications for Prevention and Therapy
Place: London, England
Credit: 26 hours Category I AMA
Fee: $425
Info: London Cardiology Course, Div. of CME-Vanderbilt, CCC-5326 Medical Center North, Nashville, TN 37232. 615/322-4030

June 2-4

Carroll Long Lecture
Place: Johnson City, TN
Info: Ramona Miller, Office of CME, Quillen-Dishner College of Medicine, Johnson City, TN 37614. 615/929-6204

June 3-7

Eleventh Annual Postgraduate Course on Rehabilitation of the Brain-Injured Adult and Child
Place: Williamsburg, VA
Fee: $285
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Station, Richmond, VA 23298-0001. 804/786-0494

June 4-6

Pediatric Electrocardiography, Electrophysiology and Pacing
Place: Bethesda, MD
Credit: 18 hours Category I AMA
Fee: $415-$465
Info: Learning Center, American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 301/897-5400, ext 241, or 800/253-4636

June 4-6

11th Annual Update Cardiology for the Primary Physician
Place: Charleston, SC
Credit: 19 Hours Category I AMA
Fee: $335-400
Info: Registration Secretary, Extramural Programs Dept., American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 800/253-4636 (in MD and AK, 301/897-5400, ext 226)

June 5-7

16th Annual Scientific Assembly, CA Chapter of American College of Emergency Physicians
Place: Newport Beach, CA
Fee: $250 non-members
Info: CAL/ACEP, 505 N. Sepulveda Blvd., #12-14, Manhattan Beach, CA 90266. 213/374-4039

June 6-11

Advanced Techniques in MRI
Place: Kiawah Island, SC
Credit: 14 hours Category I AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878; outside NC 800/222-9984

June 7-10

Doppler and 2-D Echocardiography
Place: Chicago, IL
Credit: 39 hours Category I AMA
Info: Lisa Krehbiel, Inst. for Medical Studies, 30131 Town Center Dr., Laguna Niguel, CA. 714/495-4499

June 8-10

Aggressive Management of Cardiovascular Emergencies
Place: Bethesda, MD
Credit: 17 hours Category I AMA
Fee: $415 members ACC; $465 others
Info: Program Registrar, Heart House Learning Center, American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 301/897-5400, ext 241; 800/253-4636

June 9-13

4th Annual Adult Infectious Disease Seminar — Current Update
Place: Hilton Head Island, SC
Credit: 19 hours Category I AMA, AAFP
Fee: $295
Info: George M. Converse, M.D., Director, Medical Education, Lloyd Noland Hospital and Health Centers, 701 Ridgeway Rd., Fairfield, AL 35064. 800/845-6131 (in SC, 800/922-7042)

June 10-13

Post-Graduate Course: Dermatology for Non-Dermatologists
Place: Myrtle Beach, SC
Credit: 15.5 hours Category I AMA
Fee: $200-350
Info: Div. of Dermatology, Box 3135, Duke University Medical Center, Durham 27710. 919/684-2504

June 11-13

Advanced Echocardiography and Doppler Ultrasound 1987
Place: San Diego, CA
Credit: 21 hours Category I AMA
Fee: $295-450
Info: Registration Secretary, Extramural Programs Dept, American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 301/897-5400, ext 241; 800/253-4636

June 11-13

Current Advances in Pediatric Practice
Place: Gatlinburg, TN
Credit: 12 hours Category I/PREP, AAP, AAFP
Info: Dr. Sandra Loucks, University of Tennessee Memorial Research Center and Hospital, Dept. of Pediatrics, 1924 Alcoa Highway, Knoxville, TN 37920. 615/544-9331

June 14-20

33rd Annual Family Practice Review
Place: YMCA of the Rockies, Estes Park, CO.
Info: University of Colorado School of Medicine, Office of Continuing Medical Education, 4200 East 9th Ave., Box C-295, Denver, CO 80262. 303/394-5195

June 15-17

Management of Clinically Localized Prostate Cancer
Place: Bethesda, MD
Credit: 14 hours Category I AMA
Info: Nancy Cowan, Prospect Associates, 1801 Rockville Pike, Suite 500, Rockville, MD 20852. 301/468-6555

June 15-18

18th Annual Internal Medicine Symposium
Place: Kiawah Island, SC
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

June 15-18

4th Annual Advanced Colposcopy and Basic and Advanced Gynecologic Laser Surgery
Place: Hilton Head, SC
Info: Educational Associates, P.O. Box 24772, Winston-Salem 27114. 919/760-2788

June 21-28

3rd Annual Advances in Internal Medicine
Place: Hilton Head Island, SC
Credit: 25 hours Category I AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878; outside NC 800/222-9984

June 22-26

The Physician in Management
Place: Colorado Springs, CO
Credit: 31 CME credits
Info: Sherry Mason, American Academy of Medical Directors, 4830 W. Kennedy Blvd., Suite 648, Tampa, FL 33609. 813/873-2000

June 29-July 3

Pediatric Infectious Disease in the Office Practice
Place: Aspen, CO.
Info: University of Colorado School of Medicine, Office of Continuing Medical Education, 4200 East 9th Ave., Box C-295, Denver, CO 80262. 303/394-5195

June 29-July 4

Midsummer Family Practice Digest
Place: Myrtle Beach, SC
Credit: 30 hours AAFP
Info: Paula Baker, Meeting Coordinator, North Carolina Academy of Family Physicians, P.O. Box 18469, Raleigh 27619. 919/781-6467

July 9-11

Clinical Obstetrics
Place: Kiawah Island, SC
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

July 13-16

Clinical Cardiology
Place: Kiawah Island, SC
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

July 16-18

3rd Annual Berkshire Medical Conference: Advances in Cardiology
Place: Hancock, MA
Credit: 16 hours Category I AMA
Fee: $295
Info: Berkshire AHEC, 725 North St., Pittsfield, MA 01201. 413/499-4161, ext 2417

July 17-19

Practical Internal Medicine: Selected Topics for the Internist
Place: Virginia Beach, VA
Fee: $295
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48, MCV Station, Richmond, VA 23298-0001

July 22-26

Critical Care Medicine
Place: Kiawah Island, SC
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

July 23-25

3rd Annual Berkshire Medical Conference: Common Emergencies in General Medicine
Place: Hancock, MA
Credit: 16 hours Category 1 AMA
Fee: $295
Info: Berkshire AHEC, 725 North St., Pittsfield, MA 01201. 413/499-4161, ext 2417

July 24-26

The 9th Annual Pediatric Primary Care Conference: Pediatrics at the Beach
Place: Virginia Beach, VA
Credit: 14.25 hours Category I AMA
Fee: $275
Info: Ann Potter, Office of CME, Medical College of Virginia, Box 48, MCV Station, Richmond, VA 23298-0001

July 27-29

Pediatric Update 1987
Place: Kiawah Island, SC
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450. 404/828-3967

August 2-7

Diagnostic Electron Microscopy: Annual Meeting, Electron Microscopy Society of America
Place: Baltimore, MD
Info: John Shelburne, M.D., or Victor Roggli, M.D., Dept. of Pathology, Duke University and V.A. Medical Centers, Durham 27710. 919/286-6925

August 3-8

Your Practice, Your Money, Your Family
Place: Hilton Head Island, SC
Info: Div. of CME, Medical College of Georgia, Augusta, GA 30912-6450, 404/828-3967

August 6-9

Summer Retreat: Practical Issues in Primary Care
Place: Virginia Beach, VA
Fee: $350
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48 MCV Station, Richmond, VA 23298-0001. 804/786-0494

August 14-16

Primary Care of the Female Patient
Place: Virginia Beach, VA
Fee: $295
Info: Kathy Martin, Office of CME, Medical College of Virginia, Box 48 MCV Station, Richmond, VA 23298-0001. 804/786-0494

August 15

Seminar on Geriatrics
Place: Abingdon, VA
Info: Ramona Miller, Ph.D., Program Coordinator, Office of CME, Quillen-Dishner College of Medicine, Johnson City, TN 37614. 615/929-6204

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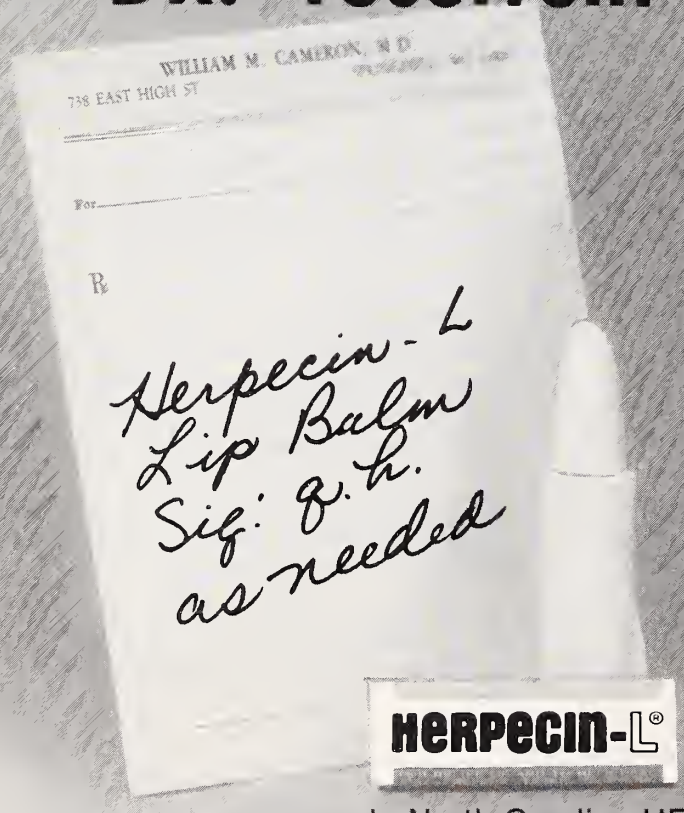
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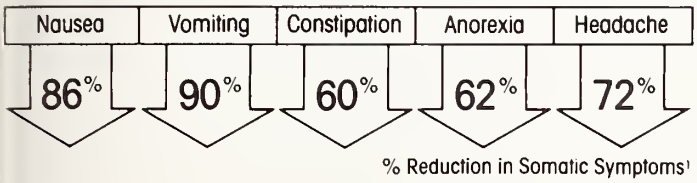
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Back to Chickens
James P. Weaver, M.D.

Breast Imaging Techniques
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FOR DOCTORS AND THEIR PATIENTS

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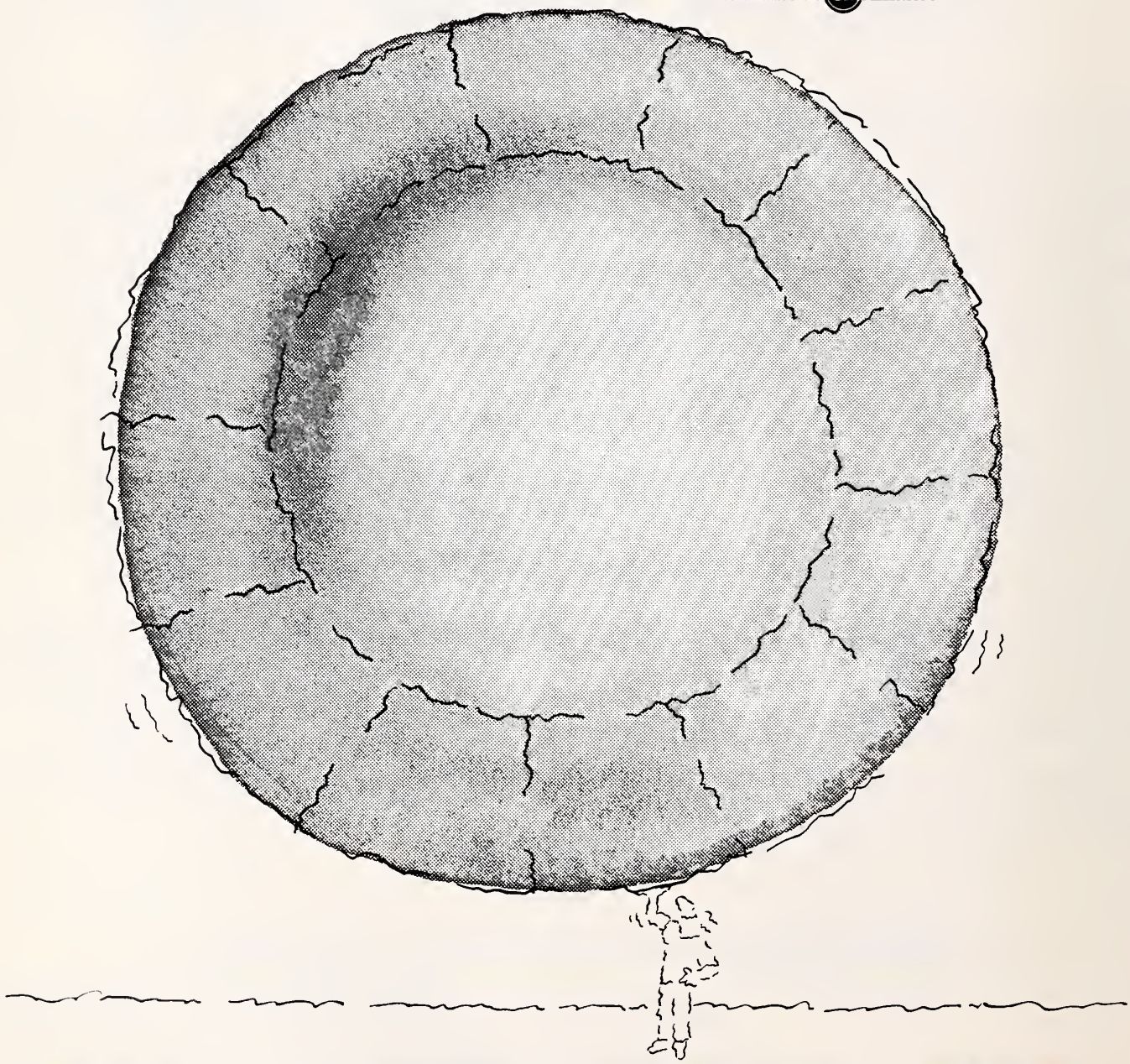
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Breast Imaging Techniques

Current Status

John T. Cuttino, Jr., M.D.

Breast cancer is now the most frequent cancer and leading cause of death in women, affecting one out of every 11 American women. The accurate and early detection of breast cancer is essential in controlling this disease.

It has now been well shown that mammography is useful in screening for breast cancer.[1-3] It is incumbent on the radiologist to provide the optimal technique and expertise in the performance and interpretation of mammograms.[4]

There are many current modalities to image the breast, including film-screen mammography, xeromammography, ultrasound mammography, diaphonography, thermography, computerized axial tomography, and magnetic resonance imaging. Let us briefly examine these modalities and then propose a rational approach to diagnosis.

Film Screen Mammography

Film-screen mammography has improved markedly in the past decade, in part because of improvements in film-screen systems. Currently in use are units dedicated to mammography. The most important breakthrough was the development of the low kilovoltage anode (Molybdenum) tube.

The state-of-the-art system employed today is a dedicated unit with built-in compression devices. This is combined with high-speed films and screens and grids. The result is a marked reduction in radiation dosage and improvement in contrast resolutions. In addition to these advantages, these radiographic systems are very reliable, with little "down time." Disadvantages are the restricted usability of the equipment, since it has few uses other than mammography, and greater technical difficulty in obtaining satisfactory images. Vigorous compression is necessary for the best images and it is necessary to view the radiographs with a hand magnifying lens to best see microcalcifications.[4]

From the Department of Radiology, University of North Carolina School of Medicine, Chapel Hill, 27514.

Xeromammography

Xeromammography uses an aluminum plate coated with selenium alloy sensitive to x-rays. The selenium plates are conditioned (charged). Incident x-rays dissipate areas of the charge and form an electrostatic latent image. This results in a "charge pattern" indicative of the actual x-ray image. The plate is developed by exposing the charged plate to a toner which adheres to the charges (proportionally). The image is transferred to a special paper and the paper is heated so the toner will adhere to it.

The xeroradiographic process results in less contrast in the image than with film-screen systems but produces an image with edge enhancement. This makes calcifications and certain lesions stand out more. The images can be made with any suitable radiographic equipment. In addition to these advantages, xeromammography enables better imaging of the chest wall, and eliminates the need for vigorous compression. Disadvantages include a higher frequency of repair (high "down time").[4]

There is little difference in accuracy of diagnosis between film-screen mammography and xeromammography. Both, when done properly by experienced, dedicated personnel and interpreted by equally experienced, dedicated radiologists, can give excellent results.[5]

Ultrasound

In the last five years, ultrasound mammography has been under development. It was hoped that ultrasound, being free of radiation risk and observable deleterious effects, would take its place as the screening modality of choice in breast diseases. Ultrasound can be used as a dedicated, automated

unit which produces "CT-like" images in the longitudinal and sagittal planes and records them on video tape. It can also be used as a hand-held small parts scanner (7.5-10 MHz. transducer) to evaluate the breasts. The accuracy of differentiating cystic from solid lesions approaches 100%. It can be useful in evaluating the "dense" breast which is difficult to evaluate by film-screen and xeromammography. This is of particular benefit in young premenopausal women who may normally have dense breasts and in whom one would like to reduce the radiation dose.

Advantages of Ultrasound mammography, then, are no radiation and accurate cyst/solid differentiation. Unfortunately, ultrasound has not been shown to be good in the screening situation and is not as good as film-screen or xeromammography.[6] The dedicated ultrasound mammography equipment is costly and has virtually no other uses. Hand-held units can have many other uses and are useful as an adjunct to film-screen or xeromammography.

Diaphonography

Diaphonography, or transillumination, involves shining a light through the breast to illuminate its interior. Different tissues scatter light in different ways and these differences can be perceived by infrared-sensitive cameras. Currently fiberoptic hand-held light sources are used.

Advantages are much the same as with ultrasound: no radiation and no known hazard. Unfortunately, diaphonography has not been reliable in demonstrating small cancers and thus cannot be recommended as a screening tool.[4]

Thermography

Thermography is a technique where heat (as infrared radiation) can be pictured with specialized photographic techniques. Breast heat patterns are symmetrical except when altered by areas of altered metabolism, which appear as "hot" areas. Tumors that are rapidly growing have an increased blood supply and therefore appear as "hot spots" on the thermogram.

Unfortunately, almost all alterations from normal, including those from benign causes, appear as "hot spots." Thus the use of thermography is not recommended as a screening modality in evaluating breast diseases.[2]

Computerized Axial Tomography

CT is in the experimental stage for purposes of evaluating breast diseases. The computerized reconstruction of x-rays passing through the breasts permits evaluation of multiple images of the breasts.

Initial studies show that CT can be useful in detecting breast cancer, especially in dense breasts which are difficult to examine by mammography. Unfortunately, the technique requires relatively high x-ray exposures, contrast injection with its inherent dangers, and expensive equipment. Thus it is not to be recommended as a screening tool.[7]

Magnetic Resonance Imaging

MRI utilizes nuclear magnetic properties to generate an image in much the same way as CT uses x-rays. Currently under development and in the experimental stages, MRI can detect large breast cancers. It remains to be seen whether MRI will be able to improve upon film-screen mammography or xeromammography in detecting breast cancer.[7]

Summary

There are several diagnostic modalities available to image the breast. All have advantages and disadvantages. At the present time, screening mammography is best performed with film-screen mammography or xeromammography. Both of these modalities, when performed and interpreted properly, can detect "minimal breast cancer" before the lesions are clinically apparent.[5] Ultrasound is useful as an adjunct to further evaluate a palpable lump or a lesion detected by mammography.[6] Ultrasound and diaphonography are not recommended in the screening situation. Thermography has no role at all. CT and MRI are still in developmental stages and may be useful in specialized situations. ■

References

1 Dodd GD. Mammography: state of the art. Cancer 1984;53:652-7.

2 Egan RL, Goldstein GT, McSweeny MM. Conventional mammography, physical examination, thermography and xeroradiography in the detection of breast cancer. Cancer 1977;39:1984-92.

3 Shapiro S, Venet W, Strax P, et al. Ten to fourteen year effect of screening on breast cancer mortality. J Nat Cancer Inst 1982;69:349-55.

4 Feig SA and McLelland R, eds. Breast carcinoma: current diagnosis and treatment. New York: American College of Radiology-Masson Publishers, 1983.

5 Cuttino JT Jr, Yankaskas BC, Hoskins EOL. Screen-film mammography in the detection of breast cancer. Brit J Radiol 1986;59:1159-62.

6 Sickles EA, Filly RA, Callen PW. Breast cancer detection with ultrasonography and mammography: comparison using state-of-the-art equipment. Am J Roentgenol 1985;140:843-5.

7 Kopans DB, Meyer JE, Sadowsky N. Breast Imaging. New Eng J Med 1984;310:960-7.

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GRAM-NEGATIVE AEROBES: *Enterobacter aerogenes, Enterobacter cloacae, Escherichia coli, Haemophilus influenzae* (including ampicillin-resistant strains), *H. parainfluenzae, Klebsiella* species (including *K. pneumoniae*), *Neisseria gonorrhoeae* (including penicillinase and nonpenicillinase producing strains), *Neisseria meningitidis, Proteus mirabilis, Proteus vulgaris, Morganella morganii* and *Serratia marcescens*.

Note: Many strains of the above organisms that are multiply resistant to other antibiotics, e.g., penicillins, cephalosporins and aminoglycosides, are susceptible to ceftriaxone sodium.

Ceftriaxone is also active against many strains of *Pseudomonas aeruginosa*.

GRAM-POSITIVE AEROBES: *Staphylococcus aureus* (including penicillinase-producing strains) and *Staphylococcus epidermidis* (Note: methicillin-resistant staphylococci are resistant to cephalosporins, including ceftriaxone), *Streptococcus pyogenes* (Group A beta-hemolytic streptococci), *Streptococcus agalactiae* (Group B streptococci) and *Streptococcus pneumoniae*. (Note: Most strains of enterococci, *Streptococcus faecalis* and Group D streptococci are resistant.)

Ceftriaxone also demonstrates *in vitro* activity against the following microorganisms, although the clinical significance is unknown.

GRAM-NEGATIVE AEROBES: *Citrobacter freundii, Citrobacter diversus, Providencia* species (including *Providencia rettgeri*), *Salmonella* species (including *S. typhi*), *Shigella* species and *Acinetobacter calcoaceticus*.

ANAEROBES: *Bacteroides* species, *Clostridium* species (Note: most strains of *C. difficile* are resistant)

SUSCEPTIBILITY TESTING: Standard susceptibility disk method. Quantitative methods that require measurement of zone diameters give the most precise estimate of antibiotic susceptibility. One such procedure (Bauer AW, Kirby WMM, Sherris JC, Turck M: Antibiotic Susceptibility Testing by a Standardized Single Disk Method, *Am J Clin Pathol 45*:493-496, 1966; Standardized Disk Susceptibility Test, *Federal Register 39*:19182-19184, 1974, National Committee for Clinical Laboratory Standards, Approved Standard ASM-2, Performance Standards for Antimicrobial Disk Susceptibility Tests, July 1975.) has been recommended for use with disks to test susceptibility to ceftriaxone.

Laboratory results of the standardized single-disk susceptibility test using a 30-mcg ceftriaxone disk should be interpreted according to the following three criteria:

1. Susceptible organisms produce zones of 18 mm or greater, indicating that the tested organism is likely to respond to therapy.
2. Organisms that produce zones of 14 to 17 mm are expected to be susceptible if a high dosage (not to exceed 4 gm per day) is used or if the infection is confined to tissues and fluids (e.g., urine), in which high antibiotic levels are attained.
3. Resistant organisms produce zones of 13 mm or less, indicating that other therapy should be selected.

Organisms should be tested with the ceftriaxone disk, since ceftriaxone has been shown by *in vitro* tests to be active against certain strains found resistant to cephalosporin class disks.

Organisms having zones of less than 18 mm around the cephalothin disk are not necessarily of intermediate susceptibility or resistant to ceftriaxone.

Standardized procedures require use of control organisms. The 30-mcg ceftriaxone disk should give zone diameters between 29 and 35 mm, 22 and 28 mm and 17 and 23 mm for the reference strains *E. coli* ATCC 25922, *S. aureus* ATCC 25923 and *P. aeruginosa* ATCC 27853, respectively.

DILUTION TECHNIQUES: Based on the pharmacokinetic profile of ceftriaxone, a bacterial isolate may be considered susceptible if the MIC value for ceftriaxone is not more than 16 mcg/ml. Organisms are considered resistant to ceftriaxone if the MIC is equal to or greater than 64 mcg/ml. Organisms having an MIC value of less than 64 mcg/ml, but greater than 16 mcg/ml, are expected to be susceptible if a high dosage (not to exceed 4 gm per day) is used or if the infection is confined to tissues and fluids (e.g., urine), in which high antibiotic levels are attained.

E. coli ATCC 25922, *S. aureus* ATCC 25923 and *P. aeruginosa* ATCC 27853 are also the recommended reference strains for controlling ceftriaxone dilution tests. Greater than 95% of MICs for the *E. coli* strain should fall within the range of 0.016 to 0.5 mcg/ml. The range for the *S. aureus* strain should be 1 to 2 mcg/ml, while for the *P. aeruginosa* strain the range should be 8 to 64 mcg/ml.

INDICATIONS AND USAGE: Rocephin is indicated for the treatment of the following infections when caused by susceptible organisms:

LOWER RESPIRATORY TRACT INFECTIONS caused by *Strep. pneumoniae, Streptococcus* species (excluding enterococci), *Staph. aureus, H. influenzae, H. parainfluenzae, Klebsiella* species (including *K. pneumoniae*), *E. coli, E. aerogenes, Proteus mirabilis* and *Serratia marcescens*.

SKIN AND SKIN STRUCTURE INFECTIONS caused by *Staph. aureus, Staph. epidermidis, Streptococcus* species (excluding enterococci), *E. cloacae, Klebsiella* species (including *K. pneumoniae*), *Proteus mirabilis* and *Pseudomonas aeruginosa*.

URINARY TRACT INFECTIONS (complicated and uncomplicated) caused by *E. coli, Proteus mirabilis, Proteus vulgaris, M. morganii* and *Klebsiella* species (including *K. pneumoniae*).

UNCOMPLICATED GONORRHEA (cervical/urethral and rectal) caused by *Neisseria gonorrhoeae*, including both penicillinase and nonpenicillinase producing strains.

PELVIC INFLAMMATORY DISEASE caused by *N. gonorrhoeae*.

BACTERIAL SEPTICEMIA caused by *Staph. aureus, Strep. pneumoniae, E. coli, H. influenzae* and *K. pneumoniae*.

BONE AND JOINT INFECTIONS caused by *Staph. aureus, Strep. pneumoniae, Streptococcus* species (excluding enterococci), *E. coli, P. mirabilis, K. pneumoniae* and *Enterobacter* species.

INTRA-ABDOMINAL INFECTIONS caused by *E. coli* and *K. pneumoniae*.

MENINGITIS caused by *H. influenzae, N. meningitidis* and *Strep. pneumoniae*. Ceftriaxone has also been used successfully in a limited number of cases of meningitis and shunt infections caused by *Staph. epidermidis* and *E. coli*.

PROPHYLAXIS: The administration of a single dose of ceftriaxone preoperatively may reduce the incidence of postoperative infections in patients undergoing coronary artery bypass surgery.

Although ceftriaxone has been shown to have been as effective as cefazolin in the prevention of infection following coronary artery bypass surgery, no placebo-controlled trials have been conducted to evaluate any cephalosporin antibiotic in the prevention of infection following coronary artery bypass surgery.

SUSCEPTIBILITY TESTING: Before instituting treatment with Rocephin, appropriate specimens should be obtained for isolation of the causative organism and for determination of its susceptibility to the drug. Therapy may be instituted prior to obtaining results of susceptibility testing.

CONTRAINDICATIONS: Rocephin is contraindicated in patients with known allergy to the cephalosporin class of antibiotics.

WARNINGS: BEFORE THERAPY WITH ROCEPHIN IS INSTITUTED, CAREFUL INQUIRY SHOULD BE MADE TO DETERMINE WHETHER THE PATIENT HAS HAD PREVIOUS HYPERSENSITIVITY REACTIONS TO CEPHALOSPORINS, PENICILLINS OR OTHER DRUGS. THIS PRODUCT SHOULD BE GIVEN CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. ANTIBIOTICS SHOULD BE ADMINISTERED WITH CAUTION TO ANY PATIENT WHO HAS DEMONSTRATED SOME FORM OF ALLERGY, PARTICULARLY TO DRUGS. SERIOUS ACUTE HYPERSENSITIVITY REACTIONS MAY REQUIRE THE USE OF SUBCUTANEOUS EPINEPHRINE AND OTHER EMERGENCY MEASURES.

Pseudomembranous colitis has been reported with the use of cephalosporins (and other broad-spectrum antibiotics); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with antibiotic use.

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Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis. Cholestyramine and colestipol resins have been shown to bind to the toxin *in vitro*.

Mild cases of colitis respond to drug discontinuance alone. Moderate to severe cases should be managed with fluid, electrolyte and protein supplementation as indicated.

When the colitis is not relieved by drug discontinuance or when it is severe, oral vancomycin is the treatment of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should also be considered.

PRECAUTIONS: *GENERAL*: Although transient elevations of BUN and serum creatinine have been observed, at the recommended dosages, the nephrotoxic potential of Rocephin is similar to that of other cephalosporins.

Ceftriaxone is excreted via both biliary and renal excretion (see Clinical Pharmacology). Therefore, patients with renal failure normally require no adjustment in dosage when usual doses of Rocephin are administered, but concentrations of drug in the serum should be monitored periodically if evidence of accumulation exists, dosage should be decreased accordingly.

Dosage adjustments should not be necessary in patients with hepatic dysfunction; however, in patients with both hepatic dysfunction and significant renal disease, Rocephin dosage should not exceed 2 gm daily without close monitoring of serum concentrations.

Alterations in prothrombin times have occurred rarely in patients treated with Rocephin. Patients with impaired vitamin K synthesis or low vitamin K stores (e.g., chronic hepatic disease and malnutrition) may require monitoring of prothrombin time during Rocephin treatment. Vitamin K administration (10 mg weekly) may be necessary if the prothrombin time is prolonged before or during therapy.

Prolonged use of Rocephin may result in overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Rocephin should be prescribed with caution in individuals with a history of gastrointestinal disease, especially colitis.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY: Carcinogenesis: Considering the maximum duration of treatment and the class of the compound, carcinogenicity studies with ceftriaxone in animals have not been performed. The maximum duration of animal toxicity studies was six months.

Mutagenesis: Genetic toxicology tests included the Ames test, a micronucleus test and a test for chromosomal aberrations in human lymphocytes cultured *in vitro* with ceftriaxone. Ceftriaxone showed no potential for mutagenic activity in these studies.

Impairment of Fertility: Ceftriaxone produced no impairment of fertility when given intravenously to rats at daily doses up to 586 mg/kg/day, approximately 20 times the recommended clinical dose of 2 gm/day.

PREGNANCY: Teratogenic Effects: Pregnancy Category B. Reproductive studies have been performed in mice and rats at doses up to 20 times the usual human dose and have no evidence of embryotoxicity, fetotoxicity or teratogenicity. In primates, no embryotoxicity or teratogenicity was demonstrated at a dose approximately three times the human dose.

There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproductive studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nonteratogenic Effects: In rats, in the Segment I (fertility and general reproduction) and Segment III (perinatal and postnatal) studies with intravenously administered ceftriaxone, no adverse effects were noted on various reproductive parameters during gestation and lactation, including postnatal growth, functional behavior and reproductive ability of the offspring, at doses of 586 mg/kg/day or less.

NURSING MOTHERS: Low concentrations of ceftriaxone are excreted in human milk. Caution should be exercised when Rocephin is administered to a nursing woman.

PEDIATRIC USE: Safety and effectiveness of Rocephin in neonates, infants and children have been established for the dosages described in the Dosage and Administration section.

ADVERSE REACTIONS: Rocephin is generally well tolerated. In clinical trials, the following adverse reactions, which were considered to be related to Rocephin therapy or of uncertain etiology, were observed:

LOCAL REACTIONS—pain, induration or tenderness at the site of injection (1%). Less frequently reported (less than 1%) was phlebitis after I.V. administration.

HYPERSENSITIVITY—rash (1.7%). Less frequently reported (less than 1%) were pruritus, fever or chills.

HEMATOLOGIC—eosinophilia (6%), thrombocytosis (5.1%) and leukopenia (2.1%). Less frequently reported (less than 1%) were anemia, neutropenia, lymphopenia, thrombocytopenia and prolongation of the prothrombin time.

GASTROINTESTINAL—diarrhea (2.7%). Less frequently reported (less than 1%) were nausea or vomiting, and dysgeusia.

HEPATIC—elevations of SGOT (3.1%) or SGPT (3.3%). Less frequently reported (less than 1%) were elevations of alkaline phosphatase and bilirubin.

RENAL—elevations of the BUN (1.2%). Less frequently reported (less than 1%) were elevations of creatinine and the presence of casts in the urine.

CENTRAL NERVOUS SYSTEM—headache or dizziness were reported occasionally (less than 1%).

GENITOURINARY—moniliasis or vaginitis were reported occasionally (less than 1%).

MISCELLANEOUS—diaphoresis and flushing were reported occasionally (less than 1%).

Other rarely observed adverse reactions (less than 0.1%) include leukocytosis, lymphocytosis, monocytosis, basophilia, a decrease in the prothrombin time, jaundice, glycosuria, hematuria, bronchospasm, serum sickness, abdominal pain, colitis, flatulence, dyspepsia, palpitations and epistaxis.

DOSAGE AND ADMINISTRATION: Rocephin may be administered intravenously or intramuscularly. The usual adult daily dose is 1 to 2 gm given once a day (or in equally divided doses twice a day) depending on the type and severity of the infection. The total daily dose should not exceed 4 grams.

For the treatment of serious miscellaneous infections in children, other than meningitis, the recommended total daily dose is 50 to 75 mg/kg (not to exceed 2 grams), given in divided doses every 12 hours.

Generally, Rocephin therapy should be continued for at least two days after the signs and symptoms of infection have disappeared. The usual duration is 4 to 14 days; in complicated infections longer therapy may be required.

In the treatment of meningitis, a daily dose of 100 mg/kg (not to exceed 4 grams), given in divided doses every 12 hours, should be administered with or without a loading dose of 75 mg/kg.

For the treatment of uncomplicated gonococcal infections, a single intramuscular dose of 250 mg is recommended.

For preoperative use (surgical prophylaxis), a single dose of 1 gm administered ½ to 2 hours before surgery is recommended.

When treating infections caused by *Streptococcus pyogenes*, therapy should be continued for at least ten days.

No dosage adjustment is necessary for patients with impairment of renal or hepatic function; however, blood levels should be monitored in patients with severe renal impairment (e.g., dialysis patients) and in patients with both renal and hepatic dysfunctions.

HOW SUPPLIED: Rocephin (ceftriaxone sodium/Roche) is supplied as a sterile crystalline powder in glass vials and piggyback bottles. The following packages are available:

Vials containing 250 mg equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1962-01).

Vials containing 500 mg equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1963-01).

Vials containing 1 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1964-01).

Piggyback bottles containing 1 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1964-03).

Vials containing 2 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1965-01).

Piggyback bottles containing 2 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1965-03).

Bulk pharmacy containers, containing 10 gm equivalent of ceftriaxone. Boxes of 1 (NDC 0004-1971-01).

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References:

1. Data on file, Hoffmann-La Roche Inc.
2. Patel IH, Kaplan SA: *Am J Med 77*:17-25, Oct 19, 1984.
3. Richards DM, *et al*: *Drugs 27*:469-527, 1984.
4. Cleeland R, Squires E: *Am J Med 77*:3-11, Oct 19, 1984.
5. Tanner DJ, Nazarian MQ: *Am J Med 77*:104-111, Oct 19, 1984.

Selective Endoscopic Treatment of Bronchogenic Carcinoma with the Carbon Dioxide Surgical Laser

An Uncommon New Indication for Laser Bronchoscopy

James A. Koufman, M.D., and
R. Bradley Thomason III, M.D.

Carcinoma of the lung is the most common fatal cancer in men and is second only to breast cancer in women.[1] The stage at diagnosis ultimately determines the prognosis and potential for any given therapy. Although there are several modes of treatment available, excisional surgery forms the cornerstone of therapy and is the major potentially curative therapeutic option. In certain patients, however, such as those with bilateral lung tumors, major excision of lung parenchyma (e.g., pneumonectomy, lobectomy) may not be feasible. It is in such cases that laser surgery may prove to have an important role, and we present such a case here. The patient underwent a lobectomy of the left upper lobe and laser bronchoscopy of a nearly obstructing lesion of the right mainstem bronchus, with no evidence of recurrence of either carcinoma after two years.

The traditional role of endobronchial laser surgery, i.e., mainly to debulk obstructing tumor recurrences as a purely palliative tool, is challenged by the outcome in this case. Indeed in selected cases, when no other options seem feasible, bronchoscopic laser surgery may offer a potential cure.

Case Report

Two years after a normal chest x-ray, a 59-year-old caucasian man was admitted with complaints of progressive dyspnea for one year, some hemoptysis, and a five-pound weight loss over the previous six months. The past medical history revealed borderline hypertension, arthritis, and chronic obstructive pulmonary disease. He was a 60-pack-year cigarette smoker and had been an alcohol abuser in the past.

Examination of the chest revealed clear breath sounds bilaterally without wheezes or crackles. The chest x-rays showed a solitary nodule with smooth rounded borders in the left upper lobe; the lesion measured 32 × 39 × 36 mm. Serum chemistry studies and a complete blood cell count were normal. Bone scans and a liver/spleen scan showed no abnormalities. Split lung perfusion tests showed equal function bilaterally. Pulmonary function tests showed an FEV_1 of two liters. A computed tomographic scan of the chest showed the pulmonary nodule in the left upper lobe but no evidence of hilar adenopathy or additional lesions. However, fiberoptic bronchoscopy showed a second lesion, described as "a large exophytic pedunculated mass in the right mainstem bronchus at the orifice of the right upper lobe bronchus with approximately 50% obstruction of the right mainstem." Biopsy of this lesion showed poorly differentiated squamous cell carcinoma. During repeat bronchoscopy several days later to evaluate the feasibility of sleeve resection of the right mainstem lesion, percutaneous needle biopsy of the left upper lobe lesion showed it, also, to be poorly differentiated squamous cell carcinoma.

These findings presented a difficult therapeutic dilemma. Could the patient tolerate bilateral upper lobectomies and sleeve resection of the right mainstem bronchus? The morbidity and mortality of this approach were considered too great. Could a left upper lobectomy be performed, temporarily leaving the right endobronchial lesion for staged resection? The risk of complete airway obstruction and hemoptysis seemed to preclude this option. Should both lesions simply be treated with chemotherapy and/or radiation therapy, although the cure rate from these options is very low? What would be the safest and most effective therapy for this patient with bilateral carcinoma of the lung?

From the Sections on Otolaryngology and General Surgery, Department of Surgery, Wake Forest University Medical Center, Winston-Salem 27103.

Treatment

We chose to perform bronchoscopic laser surgery of the right mainstem lesion to prevent further bleeding and obstruction, and then to proceed with the left upper lobectomy. At a later date the patient could be reoperated upon for the right endobronchial lesion.

Rigid bronchoscopic laser ablation of the right mainstem lesion, using the carbon dioxide laser under general anesthesia, was performed without complication. The patient underwent left upper lobectomy four days later. Eleven bronchopulmonary lymph nodes were examined histopathologically, and all 11 as well as the resection margins were free of tumor. The postoperative course was unremarkable and the patient was discharged from the hospital on the ninth postoperative day.

Repeat bronchoscopy was performed at one, three, five, nine, and 24 months postoperatively. At one month, the previously noted exophytic right-sided mass appeared as a flat plaque-like lesion 8 mm in diameter. There was no gross evidence of tumor invasion through the bronchus. This lesion was presumed to be the base of the previously treated lesion, and was again ablated with the CO_2 laser.

At three months, there was a small amount of granulation tissue at the ablation site, and it was removed with the laser. Histopathologic examination of the specimen showed granulation tissue predominantly with a single focus of squamous cell carcinoma. At five months, a 10 mm area of leukoplakia was noted in the same location and was excised with the CO_2 laser; this time there was no histologic evidence of carcinoma. At nine months a small area of granulation tissue was excised with the laser, and again showed no histologic evidence of carcinoma.

At 24 months the mucosa was pink, well healed, and without evidence of tumor; bronchial washings were negative for carcinoma. Chest x-rays showed changes consistent with the previous lobectomy but no evidence of carcinoma. We continue to follow this patient.

Discussion

Laser bronchoscopy is a relatively new therapeutic modality, performed primarily with two wavelength lasers, the Neodymium:Yttrium-Aluminum-Garnet (Nd:YAG) and the carbon dioxide (CO_2) lasers. The CO_2 laser provides a visible and predictable depth of penetration and serves well as a "laser scalpel."[2] Hemostasis, on the other hand, is only fair. The Nd:YAG laser has a greater though somewhat unpredictable depth of penetration. It has better hemostatic properties, and has a further advantage in that its energy can be delivered through a fiberoptic source.[3]

In actuality, the two lasers provide much the same clinical outcome. Both wavelengths of laser energy can be delivered via large-bore rigid bronchoscopes, ideal in cases of hemoptysis or with obstruction of both lungs wherein rapid clearing of smoke, blood, and tumor debris is required.[3] For all such cases, general anesthesia is recommended. The rigid bronchoscope also offers the advantages of superior optics, more effective and rapid tumor vaporization, and a reduced risk of endobronchial combustion.[3,4] On the other hand, the flexible bronchoscope and the Nd:YAG laser can often be used without general anesthesia and can provide the visualization necessary to approach "hard to reach" lesions. Highly vascular lesions are best treated with the Nd:YAG laser.[3]

In the early clinical reports of Nd:YAG laser bronchoscopic treatment of pulmonary cancers, only terminally ill patients for whom the usual treatment modalities had been exhausted were considered.[3] Later, laser therapy was utilized earlier in the treatment course of the disease, in conjunction with radiation or chemotherapy. These, however, were still primarily palliative treatments. As the technology and operator skill improved, a wider scope of therapeutic potential for laser surgery was realized, yet the most common indications for laser treatment have remained dyspnea due to airway obstruction, post-obstructive pneumonia or atelectasis, and hemoptysis.[2,5-7] Current clinical reports have stated that continued and repeated use of the Nd:YAG laser for *palliative* treatment of obstructing malignant lesions is indicated, and that laser therapy should be used in conjunction with radiation therapy if surgery is not the primary treatment modality for the patient.[8,9]

Thus there are no guidelines for primary treatment of endobronchial carcinoma with the surgical laser. There have been reports related to hematoporphyrin derivative (HpD) laser and photoradiation therapy (PRT) being used for detection and even cure of small superficial squamous cell carcinomas of the central tracheobronchial tree, but their application is limited to mucosal disease.[10,11] Perhaps HpD and PRT are most valuable as a tumor-specific marker for the early diagnosis of bronchogenic carcinoma.[12,13]

Reported complications of laser bronchoscopy include hemorrhage, pneumothorax, and respiratory distress secondary to free tumor causing bronchial obstruction.[2,4,9] Massive hemorrhage has led to death in several patients,[2,7] particularly with the Nd:YAG laser, since the depth of penetration is more difficult to predict. Other reported perioperative complications include cardiovascular shock, cardiac dysrhythmias and arrest, hypoxemia, and myocardial infarction.[3] Additional shortcomings of laser therapy include the relative inability to treat deep lobar or segmental lesions and the relatively short duration of palliation after treatment of many obstructing lesions.[9]

The case presented here suggests that selected patients with endobronchial lesions, especially those with multicentric or bilateral disease, may be candidates for endoscopic laser resection of one or more of the endobronchial lesions. Of importance in these cases is the need for repeated endoscopic evaluation and therapy. (In this case, for example, three treatments over a three-month period were needed before the tumor was eradicated.)

Obviously, the exophytic nature of the lesion in this patient and its failure to penetrate deeply into the bronchial wall or to metastasize suggest that although it nearly obstructed the bronchus, it was still a relatively early lesion. The case presented here is not a commonly encountered clinical situation. While surgical resection remains the primary curative mode of therapy, we believe that laser bronchoscopy for cure can and should be considered in selected cases. ■

References

1 Cancer Statistics; 1984. CA 1984;34:7-23.

2 Shapshay SM, Dumon J-F, Beamis JF, Jr. Endoscopic treatment of tracheobronchial malignancy. Experience with Nd:YAG and CO_2 lasers in 506 operations. Otolaryngol Head Neck Surg 1985;93:205-10.

3 Unger M. Neodymium:YAG laser therapy for malignancy and benign endobronchial obstructions. Clin Chest Med 1985;6:277-90.

4 Dumon JF, Shapshay S, Bourcereau J, et al. Principles for safety in application of Neodymium-YAG laser in bronchology. Chest 1984;86:163-8.

5 Toty L, Personne C, Colchen A, et al. Bronschoscopic management of tracheal lesions using the neodymium yttrium aluminium garnet laser. Thorax 1981;36:175-8.

6 Shapshay SM, Davis RK, Vaughn CW, et al. Palliation of airway obstruction from tracheobronchial malignancy: use of the CO_2 laser bronchoscope. Otolaryngol Head Neck Surg 983;91:615-9.

7 Arabian A, Spagnolo SV. Laser therapy in patients with primary lung cancer. Chest 1984;86:519-23.

8 Joyner LR, Jr., Maran AG, Sarama R, et al. Neodymium-YAG laser treatment of intrabronchial lesions. A new mapping technique via the flexible fiberoptic bronchoscope. Chest 1985;87:418-27.

9 Wolfe WG, Sabiston DC, Jr. Management of benign and malignant lesions of the trachea and bronchi with the noedymium-yttrium-aluminum-garnet laser. J Thorac Cardiovasc Surg 1986;91:40-5/

10 Cortese DA, Kinsey JH. Hematoporphyrin-derivative phototherapy for local treatment of cancer of the tracheobronchial tree. Ann Otol Rhinol Laryngol 1982;91:652-5.

11 Vincent RG, Dougherty TJ, Rao U, et al. Photoradiation therapy in advanced carcinoma of the trachea and bronchus. Chest 1984;85:29-33/

12 Hayata Y, Kato H, Konaka C, et al. Hematoporphyrin derivative and photoradiation therapy in early stage lung cancer. Lasers Surg Med 1984;4:39-47.

13 Hayata Y, Kato H, Konaka C, et al. Fiberoptic bronchoscopic laser photoradiation for tumor localization in lung cancer. Chest 1982;82:10-4.

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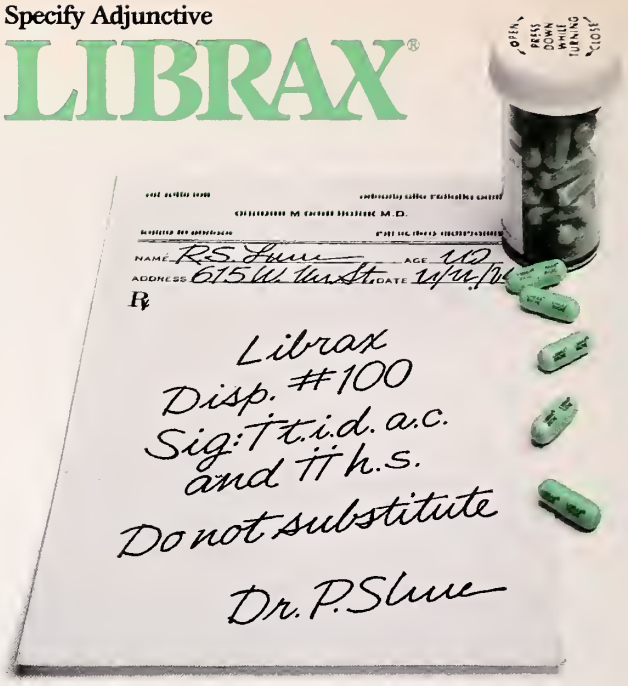
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As with all anticholinergics, inhibition of lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship not established.

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EDITORIAL

Back to Chickens

James P. Weaver, M.D.

A good idea is a good idea. Those things which have seen the test of time must be remembered as we search for answers to our ever-challenging professional dilemmas. Recently issued Medicare "guidelines" for physician charges have raised awareness of the continued threat of government control, and for the sake of our profession, I feel it is time for organized medicine to resurrect one of our ancient but still functional traditions: let us go back to chickens.

A general concept that the Feds have come up with is "MAAC," or the "maximum allowable actual charge." In attempting to keep the lid on health care costs, the government has clarified in their December 1986 mailing our "allowable charges" with the following language: "If the physician's 1984 base period charge (or 1986 average actual charge, if lower) is equal to or greater than 115% of the 1987 prevailing charge for non-participating physicians, the MAAC is equal to 101% of the 1984 base period charge." I have taken the time to reproduce certain critical quotations from this mailing so that the clarity is not lost in my translation. I have a terrible time understanding these "guidelines," but after all, I'm not an accountant, just a surgeon.

Chicken Feed

As surgeons are known for taking the simple sure approach, I suggest we begin charging in "chickens," and forget Medicare. Why?

It will remove us from the ever-tightening noose of the Medicare system. It is plain that the basis of the dialogue between the Government and Medicine, despite public avoidance of the topic, is money. Physicians want more, government wants to spend less, and patients want the most for the least. It seems evident that the "incentives" to "participate" will only get stronger. I see no reason for the government to change direction now or in the future, and I expect the "pressure" to increase.

Chickens are our only answer. If we continue the present dialogue we will only be losers. If we step out of the game by going to chickens, the worst that can happen is physicians will gain four or five years while the bureaucrats convert their system to ours and restart the dialogue.

Can you imagine, "Your charges for the year 1996 will be based on the conversion factor: three chickens maximum charge per office visit (based on chicken/$1.22, 1992 Chicken Index). If the average charge for that year is equal to 1/2 of 1% of the mean Chicken Index for the preceeding year minus the projected chicken crop for 1997, you may charge the least of your MCCC (Mean Client Chicken Charge) or the PCCC (Prevailing Client Chicken Charge)."

A second advantage is the potential elimination of the conflict between cognitive and procedural reimbursement. The ease with which dollars can be transferred has inflated the procedural charges far beyond the cognitive. The simple leveling effect of storage space should temper the charges for such notorious procedures as cardiac transplants, liver transplants, and cataracts; there will simply be no place to store the "fee." Consequently, the "medical types" will raise their charges just a bit, and the "surgical types" will be forced to drop theirs and in effect narrow the "Chicken Gap."

The Way to a Physician's Heart

Another important, gastronomic, benefit will be the potential strengthening of the ever important physician-patient relationship. Receiving a chicken casserole from the town gourmet might not be so bad. It has to beat having a patient abscond with your $55 check from Medicare because you didn't accept assignment.

Just the thought that there might be a glimmer of hope to answer the "Medicare Pressure" has made my day. Maybe physicians should get together and organize this approach, but the Federal Trade Commission says that we're not allowed to organize anymore. Anyway, if we do try it, and if the Feds catch up with us, we can always switch to pigs or sheep to gain another two or three years' respite.

Yes, things do look brighter, but I guess I shouldn't count my chickens before they're hatched! ■

From Durham Clinic, P.A., 1830 Hillandale Rd., Durham 27705

EDITORIAL

Learn and Live Health Museum

Elizabeth E. Gish

This article will serve as an introduction to the recently opened Learn and Live Health Museum in Salisbury. The completion of this ambitious project in August, 1986, represents the culmination of an intensive seven-year volunteer effort to develop a permanent health museum for this community.

The Rowan County Medical Society and Auxiliary's leadership spearheaded the founding of Rowan Learn and Live, Inc., in 1982 with their initial commitment and financial support in the amount of $2,000. During the capital campaign to raise $151,000, the contributions from the medical community alone totalled over $35,000. The average gift from each physician was approximately $800.

The project's Board of Directors worked cooperatively with the school systems, with health educators, pharmacists, dentists, and other health professionals, and with numerous civic organizations to develop a comprehensive health museum. Surveys determined specific needs, and professional design consultants were employed to design "hands-on" exhibitry and a dynamic and colorful museum.

This project may be of special interest to NCMJ readers in that the idea had its inception when I attended a 1978 American Medical Association Auxiliary National Leadership Confluence in Chicago, as President-Elect from Rowan County, NC. The projects, seminars on national issues, tapes, literature and other information shared at this meeting were very stimulating to me personally, and this annual meeting affords local auxiliary leadership tremendous growth opportunities and presents excellent ideas for implementing effective programs on a local level.

Additionally, as North Carolina's State Doctors' Day Chairman, I reviewed many reports and became aware of many worthwhile medical auxiliary projects in North Carolina. Certainly, the potential for productivity in all the AMA Auxiliaries is limited only by our energies.

The Rowan County Medical Auxiliary has a relatively small membership (less than 100), but armed with our main objective "to interpret the aims of the medical profession to other organizations interested in the promotion of health education," and knowing that over 85% of medical auxiliary members nationally are educated in health related fields, we determined to build a permanent health museum. Our hope was for continuing opportunities to learn about the human body, its functions and processes, to encourage the formulation of healthy lifestyles and attitudes, to help prevent disease and to provide a very visible and lasting gift to the citizens of this community.

The success of the Rowan County Medical Society and Auxiliary-sponsored Project H.E.L.P. (Healthful Education for Little People) also helped inspire the establishment of Learn and Live Health Museum.

The Learn and Live Museum is a dynamic, colorful, educational, and entertaining exhibit hall that appeals to a wide audience, from pre-school groups to senior citizens. "Hands-On" models allow the very young to better understand the amazing human body, and detailed script was written to offer detailed information for the college-level visitors and all who are inquisitive and want to learn. Visitors see exhibits called the "colors of health" and learn how patterns of healthy living can assure a "rainbow life."

The unique aspect of the Learn and Live Museum is the personal involvement of both the medical society and auxiliary members over the past several years. Together we made a commitment to develop one of the most comprehensive health museums in North Carolina. We have succeeded! Members wrote the script, acted as consultants on graphics, anatomical and physiology models, wallpapered, gave museum tours, sold T-shirts, made presentations to community groups, proofread museum text, labelled detailed German models, hauled off trash, and designed signs. Over 15,000 hours of volunteer time have gone into the completion of this museum. To date we have no salaried administrator.

The facility of Learn and Live is valued at over $200,000. Countless community contractors, building supply companies, and services were donated to keep the costs under budget. $151,000 was a large sum for this community to raise in a year's time. Donations were given in support of "an idea." It was many months before supporters could see the results of their gifts. The grass-roots support from Learn

From the President, Learn and Live, Inc., and Health Education Chairman, Rowan County Medical Society Auxiliary, District 9, Salisbury 28144.

and Live memberships, funding from several foundations, and support from local corporations and civic groups made our "rainbow dream" a reality.

I have been President of Learn and Live since 1982, and Health Education Chairman of the Rowan Medical Auxiliary for the past several years. I would like to thank publicly all of the members of our local medical society and auxiliary and all of the other countless supporters in this community for their genuine dedication to see a dream become a reality. Together we are proud to see that determination, hard work, and belief in a worthwhile project provided the labor and the professional leadership in this community to build a lasting and meaningful museum with exhibits and programs to promote the health of all the citizens in this community.

I think this project exemplifies "teamwork" and an outstanding cooperative effort between the Rowan Medical Society and Auxiliary in Salisbury, North Carolina. During my term as president of our auxiliary, the state theme was "Making and Mending Healthful Lifestyles." It has taken seven years to build Learn and Live, but the museum provides every visitor an opportunity to develop a healthier lifestyle.

Learn and Live is a member of the American Association of Museums and the North Carolina Museum Council, and is listed in the current guide to NC science centers prepared by the NC Academy of Sciences and the NC School of Science and Mathematics.

Since we opened the doors in August 1986, over 3,000 visitors have toured the health museum free of charge. Groups have included school classes, Scouts, the American Association of University Women, the Adult Retarded Citizens, and the Trainably Mentally Handicapped.

All exhibits are designed to accommodate the handicapped with a ramp within the two-level exhibit hall, and all exhibits have elements enabling the visually impaired and hearing impaired to use them. ■

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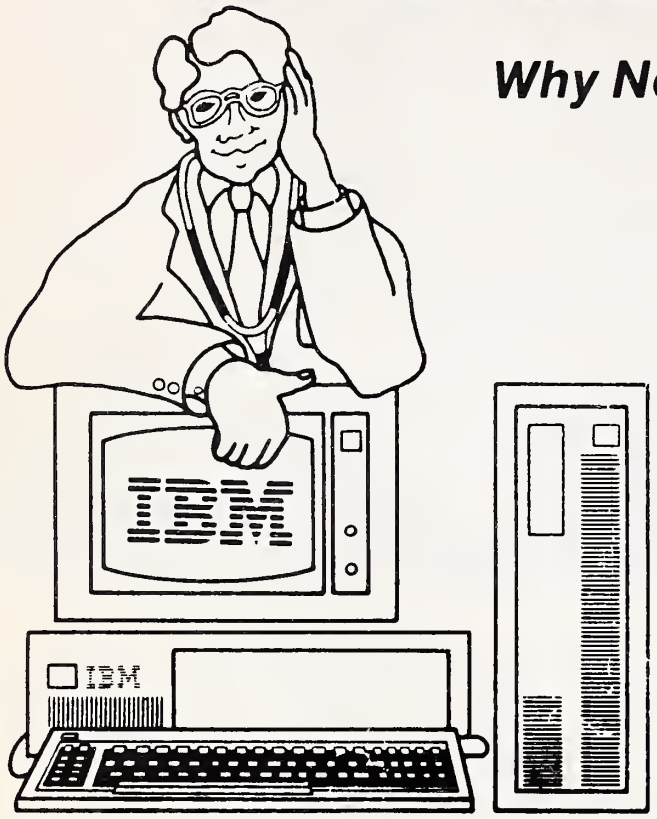
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*Caution: If perforation of the eardrum exists, specify Cortisporin Otic *Suspension* (this drug should be used with care in cases of perforated eardrum).

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MICRO OR MINI?



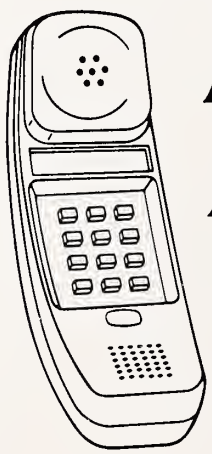
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for healed duodenal ulcer patients

See last page for references and
Brief Summary of Product Information.

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In two randomized, double-blind, and well-controlled clinical trials, ZANTAC 150 mg h.s. significantly superior to cimetidine 400 mg h.s. for maintenance therapy in healed duodenal ulcers.

Percent of patients with observed duodenal ulcer recurrence

		0-4 months	0-8 months	0-12 months	No. patients
USA[1]	ranitidine 150 mg h.s.	9%	14%*	16%†	60
	cimetidine 400 mg h.s.	23%	34%	43%	66
UK, Ireland, Australia[2]	ranitidine 150 mg h.s.	8%‡	14%‡	23%‡	243
	cimetidine 400 mg h.s.	21%	34%	37%	241

*p=0.02
†p=0.01
‡p≤0.004
%=life-table estimates
All patients were permitted prn antacids for relief of pain.

These two trials used the currently recommended dosing regimen of cimetidine (400 mg h.s.) and ranitidine (150 mg h.s.). A comparison of other dosing regimens has not been studied.

The studied dosing regimens are not equivalent with respect to the degree and duration of acid suppression or suppression of nocturnal acid.

The superiority of ranitidine over cimetidine in these trials indicates that the dosing regimen currently recommended for cimetidine is less likely to be as successful in maintenance therapy.

Convenient once-a-night dose with a

low incidence of side effects[3]

Headache, sometimes severe, seems to be related to ranitidine administration. Other side effects have been reported; for a complete listing, see the **ADVERSE REACTIONS** section in the Brief Summary.

No significant interference with the hepatic cytochrome

P-450 enzyme system at recommended doses

ZANTAC 150 mg has no significant drug interactions with theophylline, phenytoin, or warfarin. The bioavailability of certain medications whose absorption is dependent on a low gastric pH may be altered when ZANTAC or other medications that decrease gastric acidity are administered.

Zantac® 150

ranitidine HCl/Glaxo 150 mg tablets

One tablet at bedtime
for maintenance

See next page for references and
Brief Summary of Product Information.

Glaxo / ROCHE®

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Zantac® 150

ranitidine HCl/Glaxo 150 mg tablets

One tablet at bedtime for maintenance therapy in healed duodenal ulcer patients

References:
1. Silvis SE, Griffin J, Hardin R, et al: Final report on the United States multicenter trial comparing ranitidine to cimetidine as maintenance therapy following healing of duodenal ulcer. *J Clin Gastroenterol* 1985;7(6):482-487.
2. Gough KR, Korman MG, Bardhan KD, et al: Ranitidine and cimetidine in prevention of duodenal ulcer relapse: A double-blind, randomised, multicentre, comparative trial. *Lancet* 1984;ii:659-662.
3. Data available on request, Glaxo Inc.

ZANTAC® 150 Tablets
(ranitidine hydrochloride)
ZANTAC® 300 Tablets
(ranitidine hydrochloride)

BRIEF SUMMARY OF PRODUCT INFORMATION

The following is a brief summary only. Before prescribing, see complete prescribing information in ZANTAC® product labeling.

INDICATIONS AND USAGE: ZANTAC® is indicated in:

1. Short-term treatment of **active duodenal ulcer.** Most patients heal within four weeks.
2. **Maintenance therapy** for duodenal ulcer patients at reduced dosage after healing of acute ulcers.
3. The treatment of **pathological hypersecretory conditions** (eg, Zollinger-Ellison syndrome and systemic mastocytosis).
4. Short-term treatment of **active, benign gastric ulcer.** Most patients heal within six weeks and the usefulness of further treatment has not been demonstrated.
5. Treatment of **gastroesophageal reflux disease (GERD).** Symptomatic relief commonly occurs within one or two weeks after starting therapy and is maintained throughout a six-week course of therapy.

In active duodenal ulcer; active, benign gastric ulcer; hypersecretory states; and GERD, concomitant antacids should be given as needed for relief of pain.

CONTRAINDICATIONS: ZANTAC® is contraindicated for patients known to have hypersensitivity to the drug.

PRECAUTIONS: Symptomatic response to ZANTAC® therapy does not preclude the presence of gastric malignancy.

Since ZANTAC is excreted primarily by the kidney, dosage should be adjusted in patients with impaired renal function (see **DOSAGE AND ADMINISTRATION**). Caution should be observed in patients with hepatic dysfunction since ZANTAC is metabolized in the liver.

False-positive tests for urine protein with Multistix® may occur during ZANTAC therapy, and therefore testing with sulfosalicylic acid is recommended.

Although recommended doses of ZANTAC do not inhibit the action of cytochrome P-450 enzymes in the liver, there have been isolated reports of drug interactions which suggest that ZANTAC may affect the bioavailability of certain drugs by some mechanism as yet unidentified (eg, a pH-dependent effect on absorption or a change in volume of distribution).

Lack of experience to date precludes recommending ZANTAC for use in children or pregnant patients. Since ZANTAC is secreted in human milk, caution should be exercised when administered to a nursing mother.

ADVERSE REACTIONS: Headache, sometimes severe, seems to be related to ZANTAC® administration. Constipation, diarrhea, nausea/vomiting, and abdominal discomfort/pain have been reported. There have been rare reports of malaise, dizziness, somnolence, insomnia, vertigo, tachycardia, bradycardia, premature ventricular beats, and arthralgias. Rare cases of reversible mental confusion, agitation, depression, and hallucinations have been reported, predominantly in severely ill elderly patients.

In normal volunteers, SGPT values were increased to at least twice the pretreatment levels in 6 of 12 subjects receiving 100 mg qid IV for seven days, and in 4 of 24 subjects receiving 50 mg qid for five days. With oral administration there have been occasional reports of reversible hepatitis, hepatocellular or hepatocanalicular or mixed, with or without jaundice.

There have been rare reports of reversible leukopenia, granulocytopenia, thrombocytopenia, and pancytopenia.

Although controlled studies have shown no antiandrogenic activity, occasional cases of gynecomastia, impotence, and loss of libido have been reported in male patients receiving ZANTAC, but the incidence did not differ from that in the general population.

Incidents of rash, including rare cases suggestive of mild erythema multiforme, and, rarely, alopecia, have been reported, as well as rare cases of hypersensitivity reactions (eg, bronchospasm, fever, rash, eosinophilia) and small increases in serum creatinine.

OVERDOSAGE: Information concerning possible overdosage and its treatment appears in the full prescribing information.

DOSAGE AND ADMINISTRATION: Active Duodenal Ulcer: The current recommended adult oral dosage is 150 mg twice daily. An alternate dosage of 300 mg once daily at bedtime can be used for patients in whom dosing convenience is important. The advantages of one treatment regimen compared to the other in a particular patient population have yet to be demonstrated.

Maintenance Therapy: The current recommended adult oral dosage is 150 mg at bedtime.

Pathological Hypersecretory Conditions (such as Zollinger-Ellison Syndrome): The current recommended adult oral dosage is 150 mg twice a day. In some patients it may be necessary to administer ZANTAC 150-mg doses more frequently. Doses should be adjusted to individual patient needs, and should continue as long as clinically indicated. Doses up to 6 g/day have been employed in patients with severe disease.

Benign Gastric Ulcer: The current recommended adult oral dosage is 150 mg twice a day.

GERD: The current recommended adult oral dosage is 150 mg twice a day.

Dosage Adjustment for Patients with Impaired Renal Function: On the basis of experience with a group of subjects with severely impaired renal function treated with ZANTAC, the recommended dosage in patients with a creatinine clearance less than 50 ml/min is 150 mg every 24 hours. Should the patient's condition require, the frequency of dosing may be increased to every 12 hours or even further with caution. Hemodialysis reduces the level of circulating ranitidine. Ideally, the dosage schedule should be adjusted so that the timing of a scheduled dose coincides with the end of hemodialysis.

HOW SUPPLIED: ZANTAC® 300 Tablets (ranitidine hydrochloride equivalent to 300 mg of ranitidine) are yellow, capsule-shaped tablets embossed with "ZANTAC 300" on one side and "Glaxo" on the other. They are available in bottles of 30 (NDC 0173-0393-40) and unit dose packs of 100 tablets (NDC 0173-0393-47).

ZANTAC® 150 Tablets (ranitidine hydrochloride equivalent to 150 mg of ranitidine) are white tablets embossed with "ZANTAC 150" on one side and "Glaxo" on the other. They are available in bottles of 60 tablets (NDC 0173-0344-42) and unit dose packs of 100 tablets (NDC 0173-0344-47).

Store between 15° and 30°C (59° and 86°F) in a dry place. Protect from light. Replace cap securely after each opening.

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For Patients

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Carbon Monoxide Poisoning in North Carolina

LUCY FORT, R.N., AND PATRICIA GRIGGS, R.N.

It was a cold February morning when two brothers, 12 and 14 years old, stayed in a car with the engine running while their mother went into a house for a short visit. "Fifteen minutes" later when she returned, she found her 14-year-old son confused and dizzy, and her 12-year-old son dead. This child was one of 793 North Carolinians who died from carbon monoxide (CO) poisoning during the years 1972-1985.

Of the 793 deaths, 442 (56%) were from suicide; four (.5%) were from homicide; 14 (2%) were questionable as suicide or accidental death; and 333 (42%) were accidental (table 1). We review the accidental deaths (tables 2, 3, and 4),[1] and discuss fire fighters as a high-risk group for such accidents.

Carbon monoxide is a colorless, odorless, tasteless, poisonous gas formed by incomplete combustion of organic or carbonaceous material. It is present in the air we breathe and only becomes a threat to our life when it reaches high concentrations in confined spaces. Lower concentrations also can cause harmful effects, if exposure occurs over a long period of time. Each year in the United States, CO poisoning accounts for approximately 3,500 accidental or suicidal deaths.

Our review highlights the significance of CO intoxication as a common cause of accidental death in North Carolina. Moreover, case examples from the review demonstrate that CO intoxication in living persons can go undiagnosed because the symptoms of the exposure are not specific. The lesson for emergency service personnel is that they may be the only professionals who have the opportunity to view the circumstances of the exposure. Careful observation leading to a suspicion of CO exposure by rescue personnel may therefore provide the victim with his or her only chance of appropriate treatment and possible survival.

Two broad categories of CO exposure accidents were defined by the presence or absence of the involvement of an automobile. Two hundred seventy-six (83%) of the accidental deaths were associated with motor vehicles — the most common circumstance of CO exposure. Most of these, 173, occurred in vehicles parked with the motor running. Forty-four of these cases involved couples in parked vehicles; in three cases, one of the two persons survived while the companion died.

Most of the vehicles were found to have severely defective exhaust systems. Many were missing tail pipes so that the exhaust system ended just beneath the rear seat. Also, frequently, holes were discovered drilled into the trunk and rear compartment for stereo speakers or

From The North Carolina Memorial Hospital at the University of North Carolina at Chapel Hill, and Orange County Emergency Services, 106 E. Margaret Lane, Hillsborough 27278.

Table 1

Fatal Carbon Monoxide Poisoning in North Carolina 1972-1985

Manner of Death	
Suicide	442 (56%)
Accident	333 (42%)
Homicide	4 (0.5%)
Unknown	14 (2%)
Total Deaths	793

Table 2

Accidental Carbon Monoxide Fatalities (333)

Circumstances of Exposure	
Motor Vehicles	276 (83%)
Parked	173
In Closed Space	62
Other	41
No motor vehicle involved	57 (17%)
Heating Systems Involved	47

other equipment, or holes were observed in the floor boards from rust and wear. As with the two children in the parked car, many of the situations involved very short periods of exposure.

Motor Vehicle Exposure Cases

In November, a one-year-old was left sleeping in his father's pickup truck. The engine and heater were left running. After cutting wood for approximately 30 minutes within sight of the truck, the father checked on his son. CO had entered through the truck's rusty floorboard and the baby was dead.

On another cold evening, a father and his 13-month-old son had driven in a pickup truck to the wife's work place. They arrived around 8:30 and sat in the truck with the engine running to keep warm. The wife left work at 9:45 and found her husband and child in the truck unresponsive. The father recovered, but efforts to resuscitate the child failed.

In another case, a 19-year-old man arrived early for work. He sat in his "old Nash" waiting for his supervisor to arrive to unlock the garage doors. When the supervisor arrived, he found the young man in the Nash dead. The engine was still running, the doors were unlocked, and the heater and radio were on. Multiple holes were evident in the muffler on the automobile.

In spite of years of experience with this problem and a general understanding that sitting in a parked vehicle with the engine running is dangerous, these accidents continue to occur. For rescuers, any confused or unconscious person in a vehicle should be suspected of having CO exposure. This includes victims of obvious traffic accidents. In one minor traffic accident, five teenagers died from CO poisoning while they waited to be rescued.

In 62 of the vehicle-exposure deaths, a motor vehicle was running in a closed space, usually a basement or garage. In twelve of these, work was being performed on the vehicle.

In one case, a 55-year-old woman was found dead at the bottom of her basement stairs after her neighbor had jump-started her car and left it running in the basement so that the lady could get to work. In another case, three elderly persons died when one of them, a 79-year-old man, ran his sister's car in the basement so that he could add fluid. His 76-year-old wife was found dead in the upstairs bedroom and his 69-year-old sister, a few feet from her car. In other cases, stereo systems and CB radios were being installed in running vehicles in basements and garages.

Fatal CO Exposure Not Involving Vehicles

From 1972 to 1985, there were 57 deaths from circumstances not involving vehicles. Forty-seven were associated with defective stoves, heaters or appliances, the most common being improperly vented gas furnaces. These situations can lead to recurrent problems that frequently are not indentified as being related to CO. Table 4 illustrates the number of deaths associated with use of the various fuels.

The remaining ten non-vehicle deaths included five from the use of charcoal in a closed space, one of a man who was repairing a lawn mower in a basement, two involving work with a gasoline pump in a well house, and one involving use of a propane heater in an automobile.

Many of these victims were found unconscious or dead in their homes. Importantly, many had recently complained, some to medical professionals, about nonspecific symptoms that now can be attributed to CO exposure. These symptoms were most commonly headache, nausea, vomiting, dizziness, confusion, irritability, and double vision. Examples were also seen of deaths or illness of family members spread over considerable periods of time that were recognized only too late to have CO exposure as their probable cause. These are examples that should be carefully noted by rescue personnel, since only they have the opportunity to see the situations in which these exposures occur.

On a Thursday night, a 40-year-old woman was transported to the emergency room because of dizziness and weakness. She had a history of diabetes and heart disease. In the ER she was given intravenous dextrose, and then she was sent home. Later that same night, her 24-year-old son was brought to the ER in a coma. The hospital personnel called the home in an attempt to obtain

Table 3

Fatal CO Poisonings from Vehicles Other Than Parked With Engine Running With Victims Inside

Deaths	*Cause*
11	Car exhaust obstructed by: mud, snow, weeds, damaged bumper, mattress
22	Auto accident, vehicle immobilized
8	Car motor running in basement, victims in the house

Table 4

Deaths Associated With Fuels Used For Heating

Fuel	*Deaths*
Natural Gas	31
Kerosene	4
Fuel Oil	1
Coal	2
Charcoal	5
Unknown	9

some information concerning the son, but were unable to get an answer. On Saturday morning, a relative found the woman dead. Her husband and fifteen-year-old son were in a confused, comatose state with possible paralysis. They were transported to the ER by ambulance. The culprit was a gas furnace leaking dangerous levels of CO.

In another case, a 21-year-old pregnant woman was found dead and her husband unconscious in their mobile home after the husband had failed to appear for a job. The couple had gone to the emergency room the night before because they both had diarrhea and vomiting. Their furnace had reportedly been giving them problems for several weeks.

A 21-year-old woman went to visit her husband, a resident of military base housing. On the first evening of her visit, she presented to the emergency room with unconsciousness. She subsequently died of suspected pneumonia. The family was further grieved to discover the pet dog dead upon their arrival home from the funeral. Approximately three weeks later, the husband was found dead in the apartment. He had asked base personnel to check his furnace two days earlier. His blood carboxyhemoglobin level was 65%, a lethal level. On reexamination, the furnace flu was found to be obstructed by a bird's nest.

Carbon monoxide poisoning is among the most common causes of accidental deaths in North Carolina. Judging from the frequency of death, accidental nonfatal CO exposure must also be an extremely common occurrence. The symptoms of CO exposure are nonspecific, so many such occurrences go unrecognized, even if the victims seek medical attention. In the exposure situation, observant, knowledgeable rescue personnel can provide insight that can be life-saving.

Other Sources of Potentially Dangerous CO Levels

CO is released into the atmosphere by natural as well as human-made sources. Some of the sources are oxidation of atmospheric methane, coal burning, forest fires, volcanoes, agricultural burning and solid waste disposal. However, the internal combustion engine is our largest source of CO. From 1940 through 1968, there was a dramatic increase in CO emissions in the U.S. due to the increased use of the automobile. Since 1970, automobile CO emission has declined due to the installation of emission control devices.

CO concentration levels are higher in urban areas with dense traffic and tend to peak during the morning and evening rush hour traffic. CO emission depends on vehicle speed, traffic volume and meteorological conditions. Emission decreases with increasing vehicular speed so that even with dense traffic, high-speed highways tend to yield lower CO concentrations than busy city streets.

In special situations such as in underground garages, tunnels, and loading platforms, CO concentrations can reach dangerously high levels for extended periods. It is recommended that CO monitoring devices be installed to sound an alert when levels begin to exceed safe limits, generally 50 parts per million.

Another frequent source of CO exposure is cigarette smoking. Cigarette smoke can reach concentrations of 400 parts per million of CO and produce blood carboxyhemoglobin levels as high as 18%. The average carboxyhemoglobin level for smokers is 3% to 10% and the average level for nonsmokers is 1%.

The chronic, low-level exposures are suspected of contributing to the development of heart disease and to the worsening of symptoms in people who already have heart or lung diseases.

As the case examples of accidental CO poisonings demonstrate, faulty or improperly ventilated heating systems, faulty appliances, and airtight structures can contribute to accidental acute CO poisoning.

Mechanism of CO Poisoning

Carbon Monoxide enters the body through the respiratory system and its toxic and often lethal effects are associated with its binding power with the hemoglobin molecule.

The respiratory and cardiovascular systems work together to provide the essential oxygen for the tissues of

the body. The oxygen binds with the hemoglobin molecule in the red blood cell and is transported to the tissues. However, hemoglobin has an affinity for CO that is 230 to 270 times greater than that for oxygen. A hemoglobin molecule exposed to CO will bind with the CO and displace the oxygen. This means that a red blood cell that is exposed to one part carbon monoxide and about 200 parts oxygen will bind equal amounts of the two gases. Therefore, carbon monoxide in small amounts reduces the oxygen carrying capacity of the blood severely and causes damage to tissues resulting from inadequate oxygen availability. This condition is called "tissue hypoxia," a term meaning low oxygen.

Since CO poisoning causes tissue hypoxia, the signs and symptoms are related to tissues with the greatest oxygen consumption, the brain and heart muscle. Many variables affect the CO level reached by individuals and how rapidly these levels are reached. Some of the variables are:

1 Concentration of CO
2 Length of exposure
3 Respiratory rate and depth
4 Level of oxygen in the air
5 Age of the individual
6 Other underlying disease (lung disorder, heart disease, anemia, etc.)

The effects of hypoxia due to CO vary and may include the following:

Oxygen deficit to the brain may cause central nervous system complications such as uncontrolled movements or alterations in personality and cognitive function. More frequently, it will cause throbbing headache, dizziness, visual deficiency or blindness, central hearing loss, nausea and vomiting and general weakness. The victim may appear intoxicated. These symptoms may be of gradual onset and appear very flu-like.

Oxygen deficit to the heart may cause heart rhythm disturbances and angina. Patients with underlying coronary artery disease may be placed in a precarious situation since tissue hypoxia could cause the heart to increase its rate to provide more oxygen for peripheral tissues while the heart muscle itself is deprived of oxygen.

The skin may appear flushed, cyanotic, pink or pale. The classic "cherry red skin" was an uncommon finding in most of the reports we reviewed, especially in the subacute cases.

The response to the carbon monoxide level in the blood is extremely variable. However, the following COHb levels generally produce these effects:

1-10%: May produce no prominent symptoms.
10-20%: May produce headache, nausea, and vomiting.
20-30%: May produce headache, irritability, fatigue, poor judgment, dizziness and impaired vision.
40-50%: May produce headache, confusion, collapse, fainting on exertion.
60-70%: Will produce loss of consciousness, intermittent seizures, respiratory failure, death unless treatment is begun rapidly.
80%: Rapidly fatal.

Special Danger to Fire Fighters

The acute exposure of most interest to fire fighters is obviously that associated with fires. Several studies have demonstrated rapid build-up of extremely high levels of CO during the evolution of a fire.

In a series of routine structure fires in Baltimore, fire fighters were directly exposed to CO levels above 5,000 ppm (0.5000%) in 10% of the cases with a maximum exposure to one fire fighter of 27,000 ppm or 2.7%. Many of these individual exposures would have been immediately lethal had the fire fighters lost the use of their breathing equipment. It is clear that the danger of exposure to carbon monoxide alone justifies the use of breathing equipment during the fighting of any structure fire.

The duration of the hazard from carbon monoxide after the fire in a structure has been extinguished depends upon the degree of ventilation. Confined spaces such as cellars or enclosed pantries are especially dangerous. The clearance to work without breathing equipment must obviously be a judgment; but generally the danger must be considered to be present until the entire building has been completely opened and ventilated.

Wildland fires also produce a CO exposure hazard for fire fighters. Atmospheric levels as high as 50,000 ppm have been recorded by remote sensors in the immediate area of a large forest fire. Blood carboxyhemoglobin levels of 10% to 14% were noted in nonsmoking fire fighters involved in clean-up operations at a large fire in Hyde County in 1984. As would be expected, only personnel on the down-wind side of the fire experienced these exposures, while those up-wind from the fire had normal levels. These findings document the need to rotate personnel into and out of the high exposure areas during heavy fire conditions.

Treatment

CO poisoning or suspected CO poisoning should always be regarded as a medical emergency calling for prompt intervention. Treatment should begin immediately with removal of the victim from the source of the gas. The victim should then be given the highest concentration of inspired oxygen that the rescuers have available. Oxygen will increase tissue oxygenation and decrease carboxy-

hemoglobin half-life. The half-life of carboxyhemoglobin while the subject is breathing room air is approximately 240 minutes. This is decreased to 40 minutes with administration of 100% oxygen. If it is possible to draw a blood sample prior to beginning oxygen therapy, this is recommended. However, oxygen therapy should never be withheld while waiting for a confirmed diagnosis of CO intoxication.

In the hospital, oxygen therapy should continue until the carboxyhemoglobin level has fallen to 1%, and many experts suggest that it may be beneficial to continue with oxygen therapy beyond this point in patients with evidence of cerebral dysfunction. Some patients with extremely high levels, and evidence of severe brain dysfunction, might benefit from administration of pure oxygen in a pressurized chamber (hyperbaric oxygenation). ■

Reference

1 The deaths we review are those investigated by the Office of the Chief Medical Examiner of North Carolina during 1972-1985.

Before you buy a product . . .



☑Read the label
☑Check the package

If *anything* seems wrong, tell the store manager.

☑When you open it, CHECK IT OUT again. If it looks or smells wrong, take it back.

— A message from this magazine and the Food and Drug Administration

Which Medical Specialist for You?

The American Board of Medical Specialties

This helpful information on medical specialties and specialists is reprinted from a booklet of the same title published by the American Board of Medical Specialties* (ABMS).

Everyone knows what a "medical doctor" is — a physician who has had years of training to understand the diagnosis, treatment and prevention of disease. The basic training of a physician *specialist* includes four years of premedical education in a college or university, four years of medical school, and after receiving the M.D. degree, at least three years of specialty training under supervision (called a "residency"). Training in various *subspecialties* within the general specialties of internal medicine, obstetrics & gynecology, pathology, pediatrics and surgery can take two to three years longer.

The process most widely used by physicians to tell whether and why you are sick is to ask you and/or your family members questions about your health and your past medical history. This process, called "taking a history," is usually followed by an appropriate examination of your body (a "physical examination") to determine how well it is functioning and whether there are signs of disease. Doctors also use a variety of tests such as x-rays, other imaging techniques, and additional procedures to evaluate your health and identify any diseases or other health problems which may be present. Some of these diagnostic procedures (e.g. cardiac catheterization, CAT scans, biopsy of body tissues) are very complicated. They call for many years of training in order to use them safely and accurately.

Then the doctor will recommend what treatment is needed, if any. Treatment may involve surgery (there are many types of surgical specialists), medication, or other complex procedures.

The complexity of the body's structure and the way it functions call for high levels of skill in understanding body systems and in knowing the effect that each system has on the whole, in health and in disease. That is why, today, most physicians choose to specialize.

Specialists are doctors who concentrate on certain body systems, specific age groups, or on complex scientific techniques developed to diagnose or treat certain types of disorders. Specialties in medicine developed because of the rapidly expanding body of knowledge about health and illness and the constantly evolving new treatment techniques for disease. Today, no one doctor can hope to master the total field of medical knowledge or maintain skills in all diagnostic tests, treatments, and procedures.

A subspecialist is a physician who has completed training in a general medical specialty and then takes additional training in a more specific sub-area of that specialty called a subspecialty. This training increases the depth of knowledge of the specialist in that particular field. For example, cardiology is a subspecialty of internal medicine; pediatric surgery is a subspecialty of surgery; and child psychiatry is a subspecialty of psychiatry. The training of a subspecialist within a specialty requires an additional one or more years of full-time education in a program called a "fellowship."

Training of a Specialist

The training of a specialist begins after the doctor has received the M.D. degree from a medical school, in what is called a residency. Resident physicians dedicate themselves for three to seven years to full-time experience in a hospital or ambulatory care setting, caring for patients under the supervision of experienced teaching specialists. Educational conferences and research experience are also part of that training. A doctor in training to be a specialist is called a "resident," although the first year of residency used to be called an "internship."

In each state, the privilege to practice medicine is governed by state law and is not designed to recognize the knowledge and skills of a trained specialist. The physician is licensed to practice general medicine and surgery

*The American Board of Medical Specialties, One American Plaza, Suite 805, Evanston, IL 60201. Reprinted with permission. The booklet is available from the Board at the above address for 25 cents a copy.

by a State Board of Medical Examiners after passing a licensure examination. Each state has its own examining procedure to license physicians, and this board sets the general standards for all physicians.

Who Credentials a Specialist and/or Subspecialist?

Specialty boards certify physicians as having met certain published standards. There are 23 specialty boards that are recognized by the American Board of Medical Specialties (ABMS) and the American Medical Association (AMA). All of the specialties and subspecialties recognized by the ABMS and the AMA are listed in the brief descriptions that follow. Remember, a subspecialist first must be trained and certified as a specialist.

In order to be certified as a medical specialist by one of these recognized boards, a physician must complete certain requirements. Generally, these include:

1 Completion of a course of study leading to the M.D. or D.O. degree in a recognized school of medicine.
2 Completion of three to seven years of full-time training in an accredited residency program designed to train specialists in that field.
3 Some specialty boards require assessments of individual performance and competence from the residency training director or from the chief of service in the hospital where the specialist has practiced.
4 Most specialty boards require that the person who seeks certification have an unrestricted license to practice medicine in order to take the certification examination.
5 Some boards require that the doctor have a period of experience in full-time practice in the specialty prior to examination for certification — usually two years following training.
6 Finally, each candidate for certification must pass a written examination given by the specialty board. Sixteen of the 23 specialty boards also require an oral examination conducted by senior specialists in that field. Candidates who have passed the exams and other requirements are then given the status of "Diplomate" and are certified as specialists. A similar process is followed for specialists who want to become subspecialists.

Some boards issue certificates for a limited period of time, usually seven to ten years. In order to retain certification, diplomates of those boards must become "recertified," and must periodically go through an additional process involving continuing education in the specialty, review of credentials and further examination. Some boards that may not require recertification have provided voluntary recertification with similar requirements.

How To Determine If a Physician Is a Certified Specialist or Subspecialist

Certified specialists are listed in directories published by the American Board of Medical Specialties (ABMS). These include individual directories for each specialty and also the ABMS Compendium of Certified Medical Specialists. The ABMS Compendium can be found in most public libraries, hospital libraries and medical libraries. Directories are also available in university libraries. Alternatively, you could ask for that information from your county or state medical society (North Carolina Medical Society, 222 N. Person St., Raleigh 27611; 919/833-3836), or from the American Board of Medical Specialties, or from a particualr specialty board (the list of specialty boards appears in the ABMS booklet from which this excerpt is taken).

Description of Recognized Specialties and Subspecialties

Allergy and Immunology

An allergist-immunologist is a certified internist or pediatrician expert in the evaluation, physical and laboratory diagnosis, and management of disorders potentially involving the immune system. Selected examples of such conditions include asthma, anaphylaxis, rhinitis, eczema, urticaria, and adverse reactions to drugs, foods, and insect bites as well as immune deficiency diseases (both acquired and congenital), defects in host defense, and problems related to autoimmune disease, organ transplantation or malignancies of the immune system. The scope of this specialty is ever-widening as our understanding of the immune system develops. Selected experts may be additionally certified in "Diagnostic Laboratory Immunology" after additional training in the various laboratory procedures required to analyze both the function and malfunction of the immune system.

Anesthesiology

The anesthesiologist is a physician-specialist who, following medical school graduation and at least four years of postgraduate training, has the principal task of providing pain relief and maintenance, or restoration, of a stable condition during an operation, an obstetric or diagnostic procedure. The anesthesiologist assesses the risk of the patient undergoing surgery and optimizes the patient's condition prior to, during and after surgery. Anesthesiologists diagnose and treat acute and long-standing pain problems. Anesthesiologists diagnose and treat patients who have critical illnesses or are severely injured. Anes-

thesiologists direct resuscitation in the care of patients with cardiac or respiratory emergencies including the provision of artificial ventilation. They also supervise and teach others involved in anesthesia, respiratory and intensive care. Anesthesiologists may specialize in Critical Care Medicine as practiced in critical care and intensive care units, post-anesthesia recovery rooms, and other settings.

Critical Care Medicine: The anesthesiologist who specializes in Critical Care Medicine is a physician who after completion of anesthesiology training must receive additional training in critical care because the requisite knowledge and skills extend beyond anesthesiology training and cross traditional specialty lines. The primary work place is an intensive or critical care unit. Anesthesiologists trained in critical care are qualified to diagnose, treat and support patients with multiple organ system dysfunction. In addition, they may have administrative responsibilities for intensive care units and may participate in the training and medical direction of essential health care professionals such as nurses and respiratory therapists. The critical care anesthesiologist, in addition to providing direct patient care, may also facilitate and coordinate patient care among the primary physician, the critical care staff, and other specialists.

Colon and Rectal Surgery

A colon and rectal surgeon is a fully trained general surgeon who has had additional training in the diagnosis and treatment of diseases of the intestinal tract, rectum and anus. These include such anal conditions as hemorrhoids, fissures, and fistulas, and such colon and rectal diseases as polyps, cancer, colitis and diverticulitis.

Dermatology

A dermatologist is a physician concerned with the prevention, diagnosis, and treatment of benign and malignant disorders of the skin and related tissues of the mouth, external genitalia, hair and nails. The dermatologist also diagnoses and treats a number of diseases transmitted through sexual activity. Dermatologists use many diagnostic procedures including microscopic and microbiologic examination of the skin and its secretions. Treatment methods used by the dermatologist include externally applied, injected and internal medications, selected x-ray and ultraviolet light therapy, and a range of surgical procedures using instruments including the scalpel, surgical curette, electrosurgical unit, freezing surgical unit, and laser.

With this background and knowledge, the dermatologist is singularly qualified to advise on the care of normal skin, to prescribe measures to maintain the skin in a state of health, to make accurate diagnoses and administer treatment for all skin diseases and the skin manifestations of internal diseases and sexually-transmitted diseases. In addition, the dermatologist has had training and experience in the management of skin cancers, moles, and other tumors of the skin and in the use of the various techniques for the correction of cosmetic defects of the skin. Patients seeking a dermatologist ordinarily may come directly or be referred by another physician.

Emergency Medicine

Emergency Medicine is the medical specialty that focuses on the immediate decision making and action necessary to prevent death or any further disability. It is primarily hospital emergency department based, but with extensive prehospital responsibilities for emergency medical systems.

The emergency physician provides immediate initial recognition, evaluation, care and disposition of a generally undifferentiated population of patients in response to acute illness and injury. The care provided by the emergency physician is episodic in nature and involves a full spectrum of physical and behavioral conditions.

Family Practice

Family Practice is the primary medical specialty which is concerned with the total health care of the individual and the family. It is the specialty in breadth which integrates the traditional biological and clinical sciences with the behavioral and preventive aspects of the practice of medicine and is not limited by any particular age, sex, organ system or disease entity.

Training in Family Practice encompasses knowledge and skills which prepare the physician for a unique role as a personal physician who provides comprehensive health care to the individual and family.

Internal Medicine

A general internist is a physician who provides scientifically based, empathic care for the nonsurgical illnesses of adolescents and adults. This care tends to be characterized by a mutual personal commitment between doctor and patient, by stability over time, by substantial breadth, and by an appropriate attention to elements of human support, sensitivity, and concern. It is marked by technical sophistication and major professional expertise. The general internist provides continuing, comprehensive care for common and complex multisystem illnesses in the ambulatory care as well as the hospital setting.

The general internist also functions as a consultant to other specialists and is competent to handle critically ill patients and nonsurgical disorders in adolescents and adults seeking aid in the emergency room setting. Well-trained internists are unique in their ability to deliver with broad competence primary, secondary, and tertiary care.

Internists may subspecialize in:

Cardiovascular Medicine: Cardiologists subspecialize in diseases of the heart, lungs, and blood vessels and manage complex cardiac conditions such as heart attacks and life-theatening abnormal heart beat rhythms, in settings such as the coronary care unit of a hospital. They often perform complicated diagnostic procedures such as cardiac catheterizations.

Critical Care Medicine: The internist-intensivist subspecializes in managing life-threatening acute disorders in intensive care units and other settings. Shock, coma, heart failure, respiratory arrest, drug overdoses, massive bleeding, diabetic acidosis, and kidney shutdown are examples of conditions requiring critical care by internists.

Diagnostic Laboratory Immunology: This is a subspecialty field in which laboratory tests and complex procedures are used to diagnose and treat disorders characterized by defective responses of the body's immune systems.

Endocrinology: The endocrinologist concentrates on disorders of the internal (endocrine) glands such as the thyroid and adrenal glands. Endocrinology also deals with disorders such as diabetes, metabolic and nutritional disorders, pituitary diseases, and menstrual and sexual problems.

Gastroenterology: The subspecialty of the digestive organs involves the stomach, bowels, liver, gallbladder, and related organs. The gastroenterologist treats conditions such as abdominal pain, ulcers, diarrhea, cancer, and jaundice, and consults with surgeons when abdominal operations are indicated. Gastroenterologists visualize the hollow organs through lighted endoscopes, and through these flexible tubes can biopsy lining tissues and remove small polyps.

Hematology: Hematologists subspecialize in diseases of the blood, spleen, and lymph glands. They treat conditions such as anemia, clotting disorders, sickle cell disease, hemophilia, leukemia, and lymphoma, and may perform special types of transfusions and biopsy the bone marrow for analysis.

Infectious Disease: These subspecialists deal with infectious diseases of all types and in all organs. Conditions requiring selective use of antibiotics call for this special skill. Patients with fevers which have not been explained are often diagnosed and treated by these subspecialists.

Medical Oncology: The medical oncologist specializes in the diagnosis and treatment of all types of cancer and other benign and malignant tumors. These subspecialists also decide on and administer chemotherapy for malignancy as well as consult with surgeons and radiotherapists on treatment for cancer.

Nephrology: The nephrologist is concerned with disorders of the kidney, hypertension, fluid and mineral balance, dialysis of body wastes when the kidneys do not function, and consultation with surgeons about kidney transplantation.

Pulmonary Diseases: Pulmonary Disease is the subspecialty concerned with diseases of the lungs and other chest tissues. The pulmonologist diagnoses and treats pneumonia, cancer, occupational diseases, bronchitis, emphysema, and other complex disorders of the lungs. Pulmonologists test lung functions in many ways, endoscope the bronchia airways, and prescribe and monitor mechanical assistance to ventilation. Many pulmonary disease experts supervise critical care units.

Rheumatology: The rheumatologist is concerned with diseases of joints, muscle, bones, and tendons. The rheumatologist diagnoses and treats arthritis, various types of back pain, muscle strains, common athletic injuries, and rare diseases of the connective tissue and arteries in many body systems called "collagen" diseases. He may work closely with other specialists such as physiatrists and orthopaedic surgeons.

Allergy & Immunology: The subspecialty of allergy and immunology is represented by a conjoint board of the American Board of Internal Medicine and the American Board of Pediatrics, called the American Board of Allergy and Immunology.

Neurological Surgery

Neurological Surgery is a discipline of medicine which deals with the diagnosis, evaluation and treatment of diseases of the brain, spinal cord, and nerves, including the blood supply to these structures. The Neurological Surgeon is a specialist involved in the operative and non-operative management, diagnosis, evaluation, treatment, critical care and rehabilitation of patients with disorders of the nervous system.

Neurology

A neurologist is a physician concerned with the diagnosis and treatment of all categories of disease involving the

central, peripheral and autonomic nervous systems, including their coverings, blood vessels, and all effector tissues, such as muscle. For these diseases he/she is often the principal physician and may render all levels of care commensurate with his/her training. He/she should have completed training in an accredited training program and may be certified through examination by the American Board of Psychiatry and Neurology, in Neurology or in Neurology with Special Qualifications in Child Neurology.

Nuclear Medicine

Nuclear medicine is the clinical and laboratory medical specialty that employs for diagnosis, therapy and research the nuclear properties of radioactive and stable nuclides to evaluate metabolic, physiologic, and pathologic conditions of the body. A specialist in nuclear medicine is a physician who has been awarded a medical degree from an approved medical or osteopathic school, has satisfactorily completed two or more years of preparatory residency training and two years of nuclear medicine training in accredited residency programs, and who has satisfactorily passed rigorous written examination encompassing the medical uses of radioactive materials and the related physical and biological sciences.

The professional competence of nuclear medicine physicians includes: Special knowledge in the physical sciences encompassing the fundamentals of nuclear physics and nuclear magnetic resonance; the principles and operations of radiation detection and nuclear imaging instrumentation systems; statistics and fundamentals of computer sciences; the biologic effects of radiation exposure and the principles of radiation safety and protection; the production, biochemistry, and pharmacology of radioactive pharmaceuticals; and the diagnostic and therapeutic uses of radionuclides.

The nuclear medicine specialist serves as a consultant to physicians and must be prepared to obtain by means of history and physical examination pertinent information from patients, and to select and carry out appropriate nuclear medicine diagnostic procedures and nuclear medicine therapy if indicated.

The nuclear medicine physician must have broad knowledge and experience in medicine and must be capable of extending the scope of nuclear medicine as the specialty evolves and expands.

Obstetrics and Gynecology

A specialist in Obstetrics and Gynecology is a physician who is certified by The American Board of Obstetrics and Gynecology, Inc. These individuals have been prepared to provide medical and surgical care for disorders that affect the female reproductive system, the fetus or the newborn. These physicians have particular knowledge and skills which enable them to serve as consultants to physicians who practice in other areas of medicine.

A specialist in Obstetrics and Gynecology may subspecialize in:

Gynecologic Oncology: A gynecologic oncologist is a specialist in Obstetrics and Gynecology who is trained and capable in the comprehensive management of patients with gynecologic cancer and whose present activity includes the practice of gynecologic oncology in an institutional setting wherein all the effective forms of cancer therapy are available. Comprehensive management should include those diagnostic and therapeutic procedures necessary for the total care of patients with gynecologic cancer or complications resulting therefrom.

Maternal-Fetal Medicine: A specialist in Maternal-Fetal Medicine is a specialist in Obstetrics and Gynecology who by virtue of additional education is prepared to care for or consult on patients with high risk pregnancies. This requires advanced knowledge in the medical and surgical complications of pregnancy and their effect on both the mother and the fetus. It also requires expertise in the most current diagnostic and treatment modalities used in the care of patients with high risk pregnancies. Advanced knowledge of newborn adaptation is also necessary so that there may be a continuum of excellence in care from the fetal to newborn periods.

Reproductive Endocrinology: A Reproductive Endocrinologist is a specialist in Obstetrics and Gynecology who has been appropriately trained and is capable of managing complex problems relating to Reproductive Endocrinology and Infertility, one whose current professional activity involves the practice of Reproductive Endocrinology in an institutional setting wherein essential diagnostic and therapeutic facilities are being appropriately utilized.

Ophthalmology

Ophthalmologists are concerned with comprehensive care of the eyes and vision. They are the only practitioners medically trained to diagnose and treat all eye and visual problems including vision services (glasses and contact lenses), and medical disorders of the eye including surgical procedures for treatment.

Orthopaedic Surgery

Orthopaedic Surgery is the medical specialty that includes the preservation, investigation and restoration of the form and function of the extremities, spine and associated

structures by medical, surgical and physical means. Orthopaedic surgeons are involved with the care of patients whose musculoskeletal problems are present at birth or develop at any time during their lifetime. Congenital deformities, trauma, infections, tumors and metabolic disturbances of the musculoskeletal system are problems cared for by the orthopaedic surgeon. They are also concerned with all problems, as well as primary and secondary muscular problems. They are also involved in the care of patients who manifest the effects of central or peripheral nervous system lesions on the musculoskeletal system.

Otolaryngology

An otolaryngologist-head and neck surgeon is a physician who has been prepared by accredited residency programs to provide comprehensive medical and surgical care of patients with diseases and disorders that affect the ears, the respiratory and upper alimentary systems and related structures: the head and neck in general. The required five years of postgraduate specialty training must include one or more years of general surgery and three or more years of otolaryngology-head and neck surgery in approved residency programs.

The otolaryngologist-head and neck surgeon has a command of the core of knowledge, skills and understanding of:

> The basic medical sciences relevant to the head and neck; the respiratory and upper alimentary systems; the communication sciences, including knowledge of audiology and speech-language pathology; the chemical senses and allergy, endocrinology and neurology as they relate to the head and neck; the clinical aspects of diagnosis and the medical and/or surgical therapy or prevention for diseases, neoplasms, deformities, disorders and/or injuries of the ears, the respiratory and upper alimentary systems, the face, jaws and the other head and neck systems. Head and neck oncology and facial plastic and reconstructive surgery are fundamental areas of expertise.

Pathology

Pathology is that specialty of the practice of medicine dealing with the causes and nature of disease. It contributes to diagnosis, prognosis, and treatment through knowledge gained by the laboratory application of the biologic, chemical, and physical sciences to man, or materials obtained from man.

A certified specialist in pathology is a physician who voluntarily undertook and successfully completed an approved graduate medical education program in pathology and an evaluation process, including an examination administered by The American Board of Pathology. The purpose of the certification process is to assure the public and the medical profession that the pathologist has a level of knowledge, skill and other abilities deemed necessary for the scientific practice of pathology.

Pathologists are prepared to use their skills and knowledge for the diagnosis, exclusion, and monitoring of disease by means of information gathered from the microscopic examination of tissue specimens, cells, and body fluids, and from clinical laboratory tests on body fluids and secretions. The application of the resulting information to patient care requires pathologists to be especially knowledgeable in the management of laboratories and in data processing and to be conversant with new developments in "high" technology. Pathologists have the clinical training as well as the laboratory expertise to function as consultants to physicians practicing clinical medicine and to patients.

A certified specialist in pathology may subspecialize and become certified in one of the following areas:

Blood Banking: A physician specializing in blood banking is responsible for the maintenance of an adequate blood supply, blood donor and patient-recipient safety, and appropriate blood utilization. Pretransfusion compatibility testing and highly specialized testing procedures for antibodies under his/her direction assure the clinician and the patient that blood transfusions, when indicated, are as safe as possible. The blood bank specialist directs the preparation and safe use of specially prepared blood components, including red blood cells, white blood cells, platelets, and plasma constituents.

Chemical Pathology: A chemical pathologist is expert in the biochemistry of the human body as it applies to the understanding of the cause and progress of disease. Chemical pathology entails the application of biochemical data to the exclusion, detection, confirmation, or monitoring of a given disease process. The chemical pathologist functions as a clinical consultant in the diagnosis and treatment of human disease.

Dermatopathology: A dermatopathologist is expert in diagnosing and monitoring diseases of the skin including infections, immunologic, degenerative, and neoplastic diseases. This entails the examination and interpretation of specially prepared tissue sections, cellular scrapings and smears of skin lesions by means of light microscopy, electron microscopy, and fluorescence microscopy. In order to fulfill his consulting role to the patient and to the patient's physician, the dermatopathologist is required to have a good general knowledge of medicine and an in-depth knowledge of dermatology, microbiology, parasitology, new technology, and laboratory management.

Forensic Pathology: A forensic pathologist is expert in investigating and evaluating cases of sudden, unexpected, suspicious, and violent death as well as other specific classes of death defined by law. The forensic pathologist serves the public as coroner or medical examiner or by performing medicolegal autopsies for such officials.

Hematology: A hematologist-pathologist is expert in diseases that affect blood cells, blood clotting mechanisms, bone marrow, and lymph nodes. This specialist has the knowledge and technical skills essential for the laboratory diagnosis of anemias, leukemias, lymphomas, bleeding disorders, and blood clotting disorders. The hematologist/pathologist functions as a consultant to all physicians and works closely with clinical hematologists and oncologists (cancer specialists).

Immunopathology: An immunopathologist is concerned with the scientific study of the causes, diagnosis, and prognosis of disease by the application of immunological principles to the analysis of tissues, cells, and body fluids. The immunopathologist is required to have a detailed understanding of the immunologic basis of disease from the perspective of anatomic and clinical pathology and to have the knowledge and ability to interpret laboratory data in relation to patients with immunologic diseases and organ transplant recipients.

Medical Microbiology: A medical microbiologist devotes expertise to the isolation and identification of microbial agents that cause infectious disease. Viruses, bacteria, molds and fungi, as well as single-cell and larger parasites are identified and, where possible, tested for susceptibility to appropriate antimicrobial agents. This pathologist frequently acts as consultant to primary care physicians in the diagnosis and selection of therapy for patients with infectious disease.

Neuropathology: A neuropathologist is expert in the diagnosis of disease of the nervous system and skeletal muscles and functions as a consultant primarily to neurologists and neurosurgeons. The neuropathologist is knowledgeable in the infirmities of man as they affect the nervous and neuromuscular systems be they degenerative, infective, metabolic, immunologic, neoplastic, vascular, or physical in nature. In the diagnosis of these diseases, the neuropathologist employs the special skills and techniques necessary for the scientific study of tissues, cells, and body fluids.

Pediatrics

Pediatrics is the specialty of medical science concerned with the physical, emotional, and social health of children from birth to young adulthood. Pedriatric care encompasses a broad spectrum of health services ranging from preventive health care to the diagnosis and treatment of acute and chronic diseases.

Pediatrics is a discipline that deals with biological, social, and environmental influences on the developing child and with the impact of disease and dysfunction on development. Children differ from adults anatomically, physiologically, immunologically, psychologically, developmentally, and metabolically. The pediatrician understands this constantly changing functional status of his/her patients incident to growth and development, and the consequent changing standards of "normal" for age.

A pediatrician is a medical specialist who is primarily concerned with the health, welfare and development of children and is uniquely qualified for these endeavors by virtue of interest and initial training. Maintenance of these competencies is achieved by experience, training and continuous education.

A pediatrician is able to define accurately the child's health status, as well as being able to serve as a consultant and to make use of other specialists as consultants. Because children's welfare is heavily dependent on the home and family, the pediatrician supports efforts to create a nurturing environment. Such support includes education about healthful living and anticipatory guidance for both patients and parents.

A pediatrician participates at the community level in preventing or solving problems in child health care and publicly advocates the causes of children.

In addition to the general comprehensive pediatrician, there are subspecialists in pediatrics in a number of subdisciplines such as cardiology, neonatology, endocrinology, hematology-oncology, nephrology, and pulmonology. A later edition of this pamphlet (to be published by the ABMS) will include a listing and definitions of these pediatric subspecialties.

The subspecialty of allergy and immunology is represented by a conjoint board of the American Board of Pediatrics and the American Board of Internal Medicine, called the American Board of Allergy and Immunology.

Physical Medicine and Rehabilitation

Physical Medicine and Rehabilitation (also referred to as Rehabilitation Medicine, or Physiatry) is the medical specialty concerned with evaluation and functional restoration of patients with disabilities regardless of etiology. Some of the more common conditions which produce the disabilities are stroke, multiple sclerosis, Parkinson's disease, amputation, spinal cord injury, cerebral palsy, arthritis, and trauma.

Plastic Surgery

The specialty of Plastic Surgery deals with the repair, replacement and reconstruction of defects of form and

function of the integument and its underlying musculoskeletal system, with emphasis on the craniofacial structures, the oropharynx, the upper and lower limbs, the breast, and the external genitalia. It includes aesthetic surgery of structures with undesirable form.

Special knowledge and skill in the design and transfer of flaps, in the transplantation of tissues, and in the replantation of structures are vital to these ends, as is skill in excisional surgery, in management of complex wounds, and in the use of alloplastic materials.

Knowledge of surgical design, surgical diagnosis, surgical and artistic anatomy, surgical pathology, surgical onlcology, surgical physiology and pharmacology and bacteriology, biomechanics, embryology, and surgical instrumentation are fundamental to this specialty.

The judgment and technical capability for achieving satisfactory surgical results are mandatory qualities for the plastic surgeon.

Preventive Medicine

Preventive Medicine is that specialty which focuses on the health of individuals and defined populations in order to protect, promote and maintain health and well-being, and to prevent disease, disability and premature death.

In addition to the knowledge of basic and clinical sciences and the skills common to all physicians, the distinctive components of Preventive Medicine include:

1 Biostatistics
2 Epidemiology
3 Health services administration
4 Environmental and occupational influences on health
5 Social and behavioral influences on health
6 Measures which prevent the occurrence, progression and disabling effects of disease or injury

Psychiatry

These specialists deal with diagnosis, treatment and prevention of mental, emotional and/or behavioral disorders. They also enhance the adaptation of individuals who are coping with stress, crises, and other problems in living.

A psychiatrist may subspecialize in:

Child Psychiatry: A child psychiatrist is a psychiatrist with specialty qualification in the diagnosis and treatment of children, adolescents and their families.

Radiology

Therapeutic Radiology (Radiation Oncology) is that branch of Radiology which deals with the therapeutic applications of radiant energy and its modifiers and the study and management of disease, especially malignant tumors.

Diagnostic Radiology is that branch of Radiolgy which deals with the utilization of all modalities of radiant energy in medical diagnosis and therapeutic procedures utilizing radiations emitted by x-ray tubes, radionuclides, thermagraphic devices, ultrasonographic devices, and the radio-frequency electromagnetic radiation emitted by atoms.

Nuclear Radiology is that branch of Radiology which involves the analysis and imaging of radionuclides and radiolabeled substances in vitro and in vivo for diagnosis and the administration of radionuclides and radiolabeled substances for the treatment of disease.

Radiological Physics is that branch of medical physics which includes therapeutic radiological physics, diagnostic radiological physics, and medical nuclear physics; including radiation safety.

Therapeutic Radiological Physics is that branch of medical physics which deals with (1) the therapeutic applications of roentgen rays, of gamma rays, of electron and other charged particle beams, of neutrons, and of radiations from sealed radionuclide sources, and (2) the equipment associated with their production and use.

Diagnostic Radiological Physics is that branch of medical physics which deals with (1) the diagnostic applications of roentgen rays, of gamma rays from sealed sources, of ultrasonic radiation, and of radio-frequency radiation, and (2) the equipment associated with their production and use.

Medical Nuclear Physics is that branch of medical physics which deals with (1) the therapeutic and diagnostic application of radionuclides (except those used in sealed sources for therapeutic purposes), and (2) the equipment associated with their production and use.

General Surgery

A general surgeon is a specialist prepared to manage a broad spectrum of surgical conditions affecting almost any area of the body. The surgeon establishes the diagnosis and provides the preoperative, operative and postoperative care to patients and is often responsible for the comprehensive management of the trauma victim. During at least a five-year educational period after obtaining a medical degree, the surgeon has acquired knowledge and technical skill in problems relating to the head and neck, breast, abdominal wall, extremities, and the gastrointestinal, vascular and endocrine systems. The surgeon uses a variety of diagnostic techniques, including endoscopy, for observing internal structures, and may use specialized

instruments during operative procedures. A general surgeon is expected to be familiar with the salient features of other surgical specialties in order to recognize problems in those areas and to know when to refer a patient to another specialist.

Other areas of special expertise are recognized within the discipline of general surgery, requiring additional training and further examination:

General Vascular Surgery: A surgeon with special qualifications in the management of surgical disorders of the blood vessels excluding those to the heart, lungs or brain.

Pediatric Surgery: A surgeon with special qualifications in the management of surgical conditions in premature and newborn infants, children, and adolescents.

Surgical Critical Care: A surgeon with special qualifications in the management of the critically ill patient, particularly the trauma victim, and the postoperative patient in the emergency department, intensive care unit, trauma unit, burn unit, and other similar settings.

Thoracic Surgery

Thoracic surgery encompasses the preoperative evaluation, operative management, and postoperative care of patients with pathologic conditions within the chest. Specifically, it includes the surgery for congenital anomalies, diseases and injuries of the heart and great vessels, the lungs, esophagus, mediastinum, chest wall and diaphragm in all age groups.

To possess special qualification in thoracic surgery, as recognized in certification by the American Board of Thoracic Surgery, requires the knowledge, experience, and technical skill to diagnose accurately, to operate upon safely and to manage effectively patients with intrathoracic abnormalities that are appropriate to treat surgically. This requires a substantial knowledge of cardiorespiratory physiology, as well as capability in the use of extracorporeal circulation, intra-aortic balloon support, pacemakers, pleural drainage, respiratory support systems, and metabolic and hemodynamic monitoring. Recognizing and differentiating thoracic abnormalities requires skill in endoscopy and other invasive and noninvasive diagnostic techniques.

Urology

A specialist in Urology is a physician who has fulfilled the requirements of, and is certified by, The American Board of Urology. He is competent to manage benign and malignant medical and surgical disorders of the adrenal gland and of the genitourinary system. Urologists have comprehensive knowledge of, and skills in, endoscopic, percutaneous, and open surgery of congenital and acquired conditions of the reproductive and urinary systems and their contiguous structures. ■



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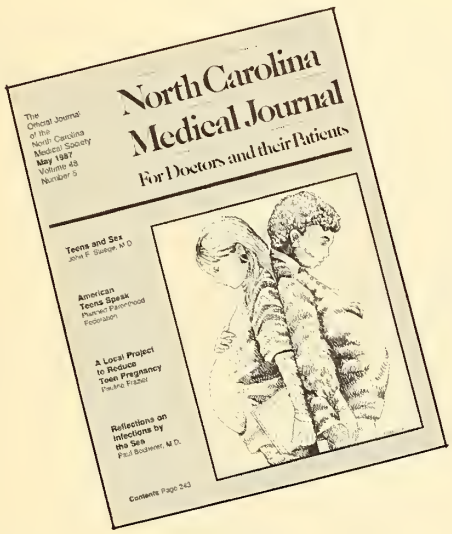
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ZOVIRAX®
(acyclovir)
CAPSULES

Prevent genital herpes recurrences month after month with daily therapy.

(In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.)

Please see last page of this advertisement for brief summary of prescribing information.

ZOVIRAX® (acyclovir) CAPSULES

Help free your patients from recurrences.

Daily therapy

Coping with genital herpes is rarely easy. For some, the worst part is the pain and discomfort of frequent attacks — month after month, year after year. For others, the emotional burden presents a more difficult problem, leading to social isolation, anxiety, and diminished self-esteem.

Prevent or reduce recurrences

Although your patients have to live with herpes, they shouldn't have to suffer. Daily therapy with ZOVIRAX CAPSULES can help free them from the cycle of recurrent genital herpes. For many, one capsule three times a day can suppress recurrences completely while on therapy.

Generally well tolerated

Daily therapy with ZOVIRAX CAPSULES is generally well tolerated. The most frequent adverse reactions reported during clinical trials were headache, diarrhea, nausea/vomiting, vertigo, and arthralgia.

The physical and emotional difficulties posed by genital herpes are unique for each patient. The frequency and severity of recurrent episodes, as well as the emotional impact of the disease, should be considered when selecting daily therapy with ZOVIRAX CAPSULES.

Please see brief summary of prescribing information on next page.



Prevent recurrences month after month*

ZOVIRAX® (acyclovir) CAPSULES

Brief Summary

INDICATIONS AND USAGE: Zovirax Capsules are indicated for the treatment of initial episodes and the management of recurrent episodes of genital herpes in certain patients.

The severity of disease is variable depending upon the immune status of the patient, the frequency and duration of episodes, and the degree of cutaneous or systemic involvement. These factors should determine patient management, which may include symptomatic support and counseling only, or the institution of specific therapy. The physical, emotional and psychosocial difficulties posed by herpes infections as well as the degree of debilitation, particularly in immunocompromised patients, are unique for each patient, and the physician should determine therapeutic alternatives based on his or her understanding of the individual patient's needs. Thus Zovirax Capsules are not appropriate in treating all genital herpes infections. The following guidelines may be useful in weighing the benefit/risk considerations in specific disease categories:

First Episodes (primary and nonprimary infections — commonly known as initial genital herpes):

Double-blind, placebo-controlled studies have demonstrated that orally administered Zovirax significantly reduced the duration of acute infection (detection of virus in lesions by tissue culture) and lesion healing. The duration of pain and new lesion formation was decreased in some patient groups. The promptness of initiation of therapy and/or the patient's prior exposure to Herpes simplex virus may influence the degree of benefit from therapy. Patients with mild disease may derive less benefit than those with more severe episodes. In patients with extremely severe episodes, in which prostration, central nervous system involvement, urinary retention or inability to take oral medication require hospitalization and more aggressive management, therapy may be best initiated with intravenous Zovirax.

Recurrent Episodes:

Double-blind, placebo-controlled studies in patients with frequent recurrences (6 or more episodes per year) have shown that Zovirax Capsules given for 4 to 6 months prevented or reduced the frequency and/or severity of recurrences in greater than 95% of patients. Clinical recurrences were prevented in 40 to 75% of patients. Some patients experienced increased severity of the first episode following cessation of therapy; the severity of subsequent episodes and the effect on the natural history of the disease are still under study.

The safety and efficacy of orally administered acyclovir in the suppression of frequent episodes of genital herpes have been established only for up to 6 months. Chronic suppressive therapy is most appropriate when, in the judgement of the physician, the benefits of such a regimen outweigh known or potential adverse effects. In general, Zovirax Capsules should not be used for the suppression of recurrent disease in mildly affected patients. Unanswered questions concerning the human relevance of *in vitro* mutagenicity studies and reproductive toxicity studies in animals given very high doses of acyclovir for short periods (see Carcinogenesis, Mutagenesis, Impairment of Fertility) should be borne in mind when designing long-term management for individual patients. Discussion of these issues with patients will provide them the opportunity to weigh the potential for toxicity against the severity of their disease. Thus, this regimen should be considered only for appropriate patients and only for six months until the results of ongoing studies allow a more precise evaluation of the benefit/risk assessment of prolonged therapy.

Limited studies have shown that there are certain patients for whom intermittent short-term treatment of recurrent episodes is effective. This approach may be more appropriate than a suppressive regimen in patients with infrequent recurrences.

Immunocompromised patients with recurrent herpes infections can be treated with either intermittent or chronic suppressive therapy. Clinically significant resistance, although rare, is more likely to be seen with prolonged or repeated therapy in severely immunocompromised patients with active lesions.

CONTRAINDICATIONS: Zovirax Capsules are contraindicated for patients who develop hypersensitivity or intolerance to the components of the formulation.

WARNINGS: Zovirax Capsules are intended for oral ingestion only.

PRECAUTIONS: General: Zovirax has caused decreased spermatogenesis at high doses in some animals and mutagenesis in some acute studies at high concentrations of drug (see PRECAUTIONS — Carcinogenesis, Mutagenesis, Impairment of Fertility). The recommended dosage and length of treatment should not be exceeded (see DOSAGE AND ADMINISTRATION).

Exposure of Herpes simplex isolates to acyclovir *in vitro* can lead to the emergence of less sensitive viruses. The possibility of the appearance of less sensitive viruses in man must be borne in mind when treating patients. The relationship between the *in vitro* sensitivity of Herpes simplex virus to acyclovir and clinical response to therapy has yet to be established.

Because of the possibility that less sensitive virus may be selected in patients who are receiving acyclovir, all patients should be advised to take particular care to avoid potential transmission of virus if active lesions are present while they are on therapy. In severely immunocompromised patients, the physician should be aware that prolonged or repeated courses of acyclovir may result in selection of resistant viruses which may not fully respond to continued acyclovir therapy.

Drug Interactions: Co-administration of probenecid with intravenous acyclovir has been shown to increase the mean half-life and the area under the concentration-time curve. Urinary excretion and renal clearance were correspondingly reduced.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Acyclovir was tested in lifetime bioassays in rats and mice at single daily doses of 50, 150 and 450 mg/kg given by gavage. There was no statistically significant difference in the incidence of tumors between treated and control animals, nor did acyclovir shorten the latency of tumors. In 2 *in vitro* cell transformation assays, used to provide preliminary assessment of potential oncogenicity in advance of these more definitive life-time bioassays in rodents, conflicting results were obtained. Acyclovir was positive at the highest dose used in one system and the resulting morphologically transformed cells formed tumors when inoculated into immunosuppressed, syngeneic, weanling mice. Acyclovir was negative in another transformation system considered less sensitive.

In acute studies, there was an increase, not statistically significant, in the incidence of chromosomal damage at maximum tolerated parenteral doses of 100 mg/kg acyclovir in rats but not Chinese hamsters; higher doses of 500 and 1000 mg/kg were clastogenic in Chinese hamsters. In addition, no activity was found after 5 days dosing in a dominant lethal study in mice. In 6 of 11 microbial and mammalian cell assays, no evidence of mutagenicity was observed. At 3 loci in a Chinese hamster ovary cell line, the results were inconclusive. In 2 mammalian cell assays (human lymphocytes and L5178Y mouse lymphoma cells *in vitro*), positive responses for mutagenicity and chromosomal damage occurred, but only at concentrations at least 400 times the acyclovir plasma levels achieved in man.

Acyclovir has not been shown to impair fertility or reproduction in mice (450 mg/kg/day, p.o.) or in rats (25 mg/kg/day, s.c.). At 50 mg/kg/day s.c. in the rat, there was a statistically significant increase in post-implantation loss, but no concomitant decrease in litter size. In female rabbits treated subcutaneously with acyclovir subsequent to mating, there was a statistically significant decrease in implantation efficiency but no concomitant decrease in litter size at a dose of 50 mg/kg/day. No effect upon implantation efficiency was observed when the same dose was administered intravenously. In a rat peri- and postnatal study at 50 mg/kg/day s.c., there was a statistically significant decrease in the group mean numbers of corpora lutea, total implantation sites and live fetuses in the F_1 generation. Although not statistically significant, there was also a dose related decrease in group mean numbers of live fetuses and implantation sites at 12.5 mg/kg/day and 25 mg/kg/day, s.c. The intravenous administration of 100 mg/kg/day, a dose known to cause obstructive nephropathy in rabbits, caused a significant increase in fetal resorptions and a corresponding decrease in litter size. However, at a maximum tolerated intravenous dose of 50 mg/kg/day in rabbits, there were no drug-related reproductive effects.

Intraperitoneal doses of 320 or 80 mg/kg/day acyclovir given to rats for 1 and 6 months, respectively, caused testicular atrophy. Testicular atrophy was persistent through the 4-week postdose recovery phase after 320 mg/kg/day; some evidence of recovery of sperm production was evident 30 days postdose. Intravenous doses of 100 and 200 mg/kg/day acyclovir given to dogs for 31 days caused aspermatogenesis. Testicles were normal in dogs given 50 mg/kg/day, i.v. for one month.

Pregnancy: ***Teratogenic Effects:*** Pregnancy Category C. Acyclovir was not teratogenic in the mouse (450 mg/kg/day, p.o.), rat (50 mg/kg/day, s.c.) or rabbit (50 mg/kg/day, s.c. and i.v.). There are no adequate and well-controlled studies in pregnant women. Acyclovir should not be used during pregnancy unless the potential benefit justifies the potential risk to the fetus. Although acyclovir was not teratogenic in animal studies,. the drug's potential for causing chromosome breaks at high concentration should be taken into consideration in making this determination.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when Zovirax is administered to a nursing woman. In nursing mothers, consideration should be given to not using acyclovir treatment or discontinuing breastfeeding.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS — Short-Term Administration: The most frequent adverse reactions reported during clinical trials were nausea and/or vomiting in 8 of 298 patient treatments (2.7%) and headache in 2 of 298 (0.6%). Less frequent adverse reactions, each of which occurred in 1 of 298 patient treatments (0.3%), included diarrhea, dizziness, anorexia, fatigue, edema, skin rash, leg pain, inguinal adenopathy, medication taste and sore throat.

Long-Term Administration: The most frequent adverse reactions reported in studies of daily therapy for 3 to 6 months were headache in 33 of 251 patients (13.1%), diarrhea in 22 of 251 (8.8%), nausea and/or vomiting in 20 of 251 (8.0%), vertigo in 9 of 251 (3.6%), and arthralgia in 9 of 251 (3.6%). Less frequent adverse reactions, each of which occurred in less than 3% of the 251 patients (see number of patients in parentheses), included skin rash (7), insomnia (4), fatigue (7), fever (4), palpitations (1), sore throat (2), superficial thrombophlebitis (1), muscle cramps (2), pars planitis (1), menstrual abnormality (4), acne (3), lymphadenopathy (2), irritability (1), accelerated hair loss (1), and depression (1).

DOSAGE AND ADMINISTRATION: Treatment of initial genital herpes: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 10 days (total 50 capsules).

Chronic suppressive therapy for recurrent disease: One 200 mg capsule 3 times daily for up to 6 months. Some patients may require more drug, up to one 200 mg capsule 5 times daily for up to 6 months.

Intermittent Therapy: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 5 days (total 25 capsules). Therapy should be initiated at the earliest sign or symptom (prodrome) of recurrence.

Patients With Acute or Chronic Renal Impairment: One 200 mg capsule every 12 hours is recommended for patients with creatinine clearance ≤ 10 ml/min/1.73/m^2.

HOW SUPPLIED: Zovirax Capsules (blue, opaque) containing 200 mg acyclovir and printed with "Wellcome ZOVIRAX 200"- Bottles of 100 (NDC-0081-0991-55) and unit dose pack of 100 (NDC-0081-0991-56).

Store at 15°-30°C (59°-86°F) and protect from light.

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*In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.

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Implications for Fee-for-Service Practices Affiliated with Independent Practice Associations

John J. Aluise, Ph.D., Don Bradley, M.D., and Bill Zelman, C.P.A., Ph.D.

Prepaid health systems, especially health maintenance organizations (HMOs), have made a dramatic impact upon traditional patterns of medical practice. According to the 1985 HMO census report, over 20,000,000 people in the United States are enrolled in some form of HMO. The Independent Practice Association (IPA), which is the newest form of HMO, represents over 75% of prepaid plans and 55% of enrollees in HMOs. Utilization rates for group and staff HMOs are approximately 3.5 visits per enrollee per year, while in IPAs the average number of visits per enrollee per year is slightly over four.[1] The future growth in prepaid health plans is projected to be in the IPA plans because they require less organizational and financial investment and because they allow practicing physicians to incorporate prepaid patients into their traditional fee-for-service practices.

Beginning in 1982, nine HMOs, seven of which are IPAs, have enrolled over 300,000 people in North Carolina, representing nearly 5% of the state's population.[2] Since the largest number of enrollees in North Carolina have been in IPA plans, this type of HMO will have the most impact on practicing physicians in North Carolina.

The unique feature of IPA plans is that they allow practicing physicians to continue to provide services to fee-for-service patients, as well as those patients who are enrolled in the HMO. Physicians are compensated for medical care to the IPA plan subscribers on a capitation basis or on a fee-for-service basis. IPA plans typically require primary care physicians to act as health care managers for the patients enrolled in the IPA. This involves providing primary medical services and authorizing referrals and admissions. Primary physicians are also encouraged to carefully monitor patients' use of diagnostic tests and surgical procedures.

From the University of North Carolina, Department of Family Medicine, 269 H, Chapel Hill 27514.

General Findings About HMOs

Most research on prepaid medical practice has concentrated on the staff and group types of HMO, which are typically operated as exclusive practices for prepaid patients. Wolinsky reviewed nine of the most often cited studies of HMO performance and identified the incentives and disincentives to operate an HMO.[3] According to Wolinsky's review, HMOs lower the rate of hospitalization, reduce the average cost of medical care, offer a range of health benefits, minimize unnecessary surgery, and curb the over-utilization of tests and procedures inherent in the fee-for-service system. Quality of care in HMOs is generally comparable to fee-for-service practices, but patient satisfaction declines when continuity is poor and when higher utilization occurs. Evidence also seems to indicate that HMOs do not skim off healthy patients.

In a second major review, Ellsbury compiled an encyclopedia of information on the growth and current trends occurring in the HMO field.[4] Characteristics common to successful HMOs are: adequate patient access; consumer grievance procedure; coordination of care, including consultation and referral services; restrictions on certain services, particularly hospital admissions and inpatient surgery; information management system; physician involvement in financial management and risk-sharing; protection against insolvency; negotiated prices for specialty and ancillary services; emphasis upon group practices; and effective medical and administrative leadership. In addition to these factors, Ellsbury concluded that if practices are to manage prepaid patients efficiently, they should consider including other health professionals such as nurse practitioners and physician assistants, and implementing administrative mechanisms within the practice to monitor utilization and coordinate the authorization process.

Advantages and Disadvantages of IPAs

The IPA, like most HMOs, has five basic features: (1) a contractual relationship with primary care physicians to provide comprehensive health services; (2) a defined population enrolled for a set period; (3) voluntary participation by both providers and patients; (4) fixed payments to the primary physicians by the HMO; and (5) assumption of a portion of financial risk by the providers.[5] More detailed discussion of the features and functions of IPA plans are available in several case studies and in a federally funded report.[6-8]

Despite the many positive features attributed to HMOs and publicized particularly to employers and the population at large, in certain instances the IPA plans have met with considerable negative reactions, particularly from physicians in fee-for-service practices. The two problems that physicians mention most often are that cost containment efforts result in lower quality of care, and that the doctor-patient relationships are compromised due to lack of choice of doctor leading to discontinuity of care and the potential for impersonal treatment.[9,10] Table 1 outlines the major advantages and disadvantages that physicians need to consider when affiliating with IPA plans.

Some of the controversy surrounding IPAs may be attributed to the primary physician's role as case manager. The case manager role has been defined as ". . . designated health professional who serves as the patient's primary physician and refers the patient to specialist services, as needed, as a condition of third party payment for services."[11] This role is viewed as essential to the HMO concept because the success of prepaid plans is based on the extent to which the primary physician, as case manager, limits unnecessary referrals to specialists.

Opposition to the primary care physician as case manager comes from specialists who fear that primary physicians will exert monopolistic control over the access to important medical services. Other problems associated with the case manager role are: (1) it has the potential to create adversarial relationships among patients and consultants and primary physicians over decisions about additional medical services; (2) it may generate ethical and professional conflicts when the physician's perception of what is medically indicated differs from the insurer's benefits; (3) administrative tasks by both physicians and their office personnel add time and expense which is not compensated in the prepayment contract; and (4) multiple IPAs in one practice may lead to inefficiency and confusion within the practice organization.[12-14]

Table 1

Advantages and Disadvantages of Affiliation with IPAs

Advantages	*Disadvantages*
Increase in patient enrollments	Potential adversarial relationships with patients/consultants/third parties
Predictable cash flow	Potential for higher utilization of office visits by prepaid patients
Increase in collections	Limitations on choice of referrals
Greater control over use of ancillary services and referrals	Financial risk if utilization is high or if adverse selection occurs
Potential for population-based research	Increased administrative tasks for physicians and office staff
Productivity analyses on utilization of primary and specialty care services	Greater demands upon the practice "cost-effectively"
Opportunity to participate in planning and implementing prepaid plans	Each physician's practice methods will be analyzed and compared
Opportunity to establish a multi-specialty referral network	
Greater rewards for practices with full-service labs and x-ray facilities	

Preliminary Research on IPAs in North Carolina

When family physicians in Charlotte, Greensboro, and the Durham-Chapel Hill area meet to discuss their initial experiences with IPAs, it becomes apparent that they have a variety of questions and concerns and a perception that many of the purported advantages have yet to be recognized. In these discussions, the doctors seem to be most worried about the following issues: the adequacy of capitation rate and physician compensation; the number of different types of services primary physicians must authorize; the amount of clerical and communications work required of primary physicians and office personnel; administrative support from the IPA organization to the physicians' offices; mechanisms for authorizations and negotiations with consultants and other preferred providers; disruptions in office efficiency; the perplexity of the case manager role; and the realities of the functioning of the prepaid system.

Even though our information is preliminary and may not represent the attitudes of all physicians affiliated with IPAs, we believe, based upon previous studies and our initial investigation, that physicians in North Carolina should be apprised of the following issues as they contemplate their association with prepaid plans.

Capitation rate. The capitation rate, which in the HMO is the primary physician's source of payment, appears to be inadequate to cover the cost of services customarily given to equivalent fee-for-service patients. This may be a function of the higher utilization during the initial period of the plan or the inadequacy of capitation rates for particular age/sex groups. Specific concerns were raised about the capitation rate for women aged 18-54, and about certain groups of health consumers who may be consistently high utilizers, such as hospital employees and elderly patients.

Special services in risk pool. Some of the services in the primary physician's risk pool may need to move into

the referral or institutional funds. These include psychiatric and other mental health services, chiropractic fees, prescription drugs, newborn hospital care, physical therapy, and medical care for major preexisting conditions. Many primary physicians indicated that they did not believe they should be at risk financially for services, such as these, that generally are not provided by primary physicians.

Administrative support by the IPA. A major area of concern for primary physicians is the insufficient administrative support provided by some IPAs. Common problems include a lack of guidelines for covered services, inaccessibility of IPA personnel to handle questions and complaints, the amount of paperwork required of the practice to record encounter and referral information about primary care and specialist utilization, costs incurred from referral and institutional funds, and other productivity information to evaluate the individual practice and overall success of the prepaid plan.

Preferred providers. Since the viability of prepaid plans, particularly IPAs, is determined by controlling the costs of specialty and ancillary services, primary care practitioners recognize the value of selecting a few consultants in each specialty with pre-arranged fees. A close relationship with specialists is essential, and primary physicians felt that consultants should be selected who were committed to working within the guidelines of the prepaid plan. This arrangement could include radiology, laboratory services and counseling centers. Primary physicians felt that the IPA plans should make a special effort to communicate with specialists, to inform them about the requirements for referrals and to emphasize the primary physician's role as coordinator of the patient's medical care. Some IPAs do a much better job of dealing with the primary physician/consultant physician relationship than others.

Practice disruptions. The increase in patient enrollments and office visits within a relatively short period of time will disrupt office routines. Problems were reported in scheduling routine and acute visits for fee-for-service patients, in verifying membership of IPA patients, in dealing with eligibility requirements, and in responding to IPA patients' demands for preferential referrals. The influx of new patients will stress the practice system. Physicians and office personnel should be prepared to increase the number of available appointment times and establish protocols so that both fee-for-service and prepaid patients' requests can be satisfied. Additional staffing may also be needed to complete the registration procedures and to record financial and utilization data that the IPA plans require.

Marketing by the IPA. Physicians seemed in agreement that the prepaid plans are being marketed to employers and the general public as a comprehensive, low-cost method of health care, with easy access to specialists as long as the primary care physician gives permission. Many stipulations are either avoided or glossed over when presenting the plans to potential enrollees. Issues that primary physicians believe need to be clarified are the emphasis on the primary physician as health care manager, the need for appropriate justification before referrals and surgical procedures, the limitations on use of specialists, and the need to comply with established office practice routines. It appears that most plans are overzealous in their marketing efforts toward employers and future patients. In the future the plans must be more cognizant of the needs of their providers who ultimately must deliver the service that the plan promotes.

Case manager's role. The success of the IPA is predicated upon the primary physicians' ability not only to provide quality medical care but to coordinate and monitor in their respective practices all needed health services for the prepaid patients. Physician case management has been described as a range of roles including advocate, agent, care giver, diagnostician, risk manager, broker, educator, service evaluator, auditor, authorizer and resource allocator.[15] Given that these roles require several hours per week of physician and staff time, the case manager function should be appropriately compensated. Suggestions for how this role should be rewarded varied from 10% of office staff salaries to an additional 10% to 15% added to the monthly capitation payment.

Table 2 presents a **Practice Readiness Checklist** that physicians could use to determine how prepared their practices are to affiliate with a prepaid health plan.

Table 2.
Practice Readiness Checklist

"Is your practice ready to affiliate with an IPA?"

Practice has a need to increase its patient population to include prepaid patients.

Financial payments from prepaid plan are considered appropriate for the volume and type of services that will be provided to patients enrolled.

Practice is willing to expand medical care and ancillary services to provide a wide range of clinical and diagnostic services.

One physician and the practice manager are prepared to devote several days/evenings per month working in various aspects of the IPA system.

All physicians in the practice are willing to have their practice styles and productivity analyzed, and compared to other practices.

Practice is willing to associate with other medical and surgical specialists (preferred providers) to control excessive utilization of medical care.

Primary care physicians are prepared to authorize (and deny) referrals and use of specialized care.

Practice is willing to establish an internal control system to evaluate quality of care, utilization of ancillary services, authorization of referrals and admissions, and the efficiencies of patient scheduling and other office routines.

Discussion

As physicians assess the pros and cons of prepaid health plans, particularly the IPA model, it behooves them to look closely at not only the individual plan but also their personal and organizational practice patterns. Integrating prepaid health plans into fee-for-service practices will undoubtedly change practice management and professional relations.

It is unlikely that prepaid health care will diminish in scope. All the signs are quite to the contrary. It is hoped that primary physicians and their consultant colleagues will find it worthwhile to incorporate the aims of prepaid plans which are to offer cost-effective, comprehensive health services to a defined group of patients on a prepaid basis.

Successful prepaid health plans will require physician leadership in all aspects of the system's design and implementation. Practitioners must be willing to work within the HMO organization to establish and refine utilization controls and peer review mechanisms and to promote the appropriate alternatives to hospitalizations and high-cost procedures. HMO organizations must provide physicians with professional and financial incentives for affiliating with prepaid health plans.

During the negotiation stage of either the initial contract or a renewal period, physicians would consider the issues listed in table 3 as they negotiate their affiliation agreement with the IPA. The following three sources of information regarding physicians contractual relationships with HMOs will also be of value during a negotiation process.

Physicians' Contracting Handbook
California Medical Association
731 Market Street, San Francisco, CA 94013
415/863-5522

Minnesota Medical Association
Suite 400, 2221 University Ave. S.E.
Minneapolis, MN 55414
612/378-1875

Compendium of Information on Considering a Contract
Socioeconomics Division
American Academy of Family Physicians
1740 W. 92 St., Kansas City, MO 64114
800/821-2512

A national study of HMO success factors concludes that a good relationship between an IPA and participating physicians will entail: reimbursement mechanisms and amounts that are perceived as fair; assistance in patient management such as advising on good office management practices and making available comparative data on utilization patterns; a balance between the need for adequate utilization controls and the avoidance of paperwork and procedural burdens; and a recognition of the physician's desire for clinical independence.[16] ■

Table 3.
Factors to Consider During Contractual Negotiations with an IPA

1 Marketing information presented to employers and enrollees about primary care providers, consultants, and covered and non-covered services.

2 Limitations on hospitalizations, referrals, and ancillary services.

3 Obligations of the providers to enrolled patients and the plan itself.

4 Requirements for prior authorization by the primary physician.

5 Definition of services included in capitation, referral and institutional funds.

6 Renegotiation procedures for capitation rates and assignment of patients.

7 Disbursement of payment from the capitation-referral and institutional funds.

8 Availability and usefulness of management information reports.

9 Support services and grievance procedures of the plan.

10 Physician representation in the IPA's administrative system.

11 Medical-legal and malpractice considerations affecting the affiliation.

12 Negotiated fees and contracted services with preferred providers.

13 Utilization review and cost containment policies.

14 Stop-loss guidelines and other methods for exceptional circumstances.

15 Termination provisions and obligations of both parties upon termination.

Important Questions

How is insurance premium distributed? How is allowance for hospitalization and referral funds calculated? What is preadmission certification system?

What is the risk sharing/hold back provision? How are out-of-area services covered? How are primary physicians' services marketed? How are consultant costs controlled? What is stop-loss for physician and hospital costs?

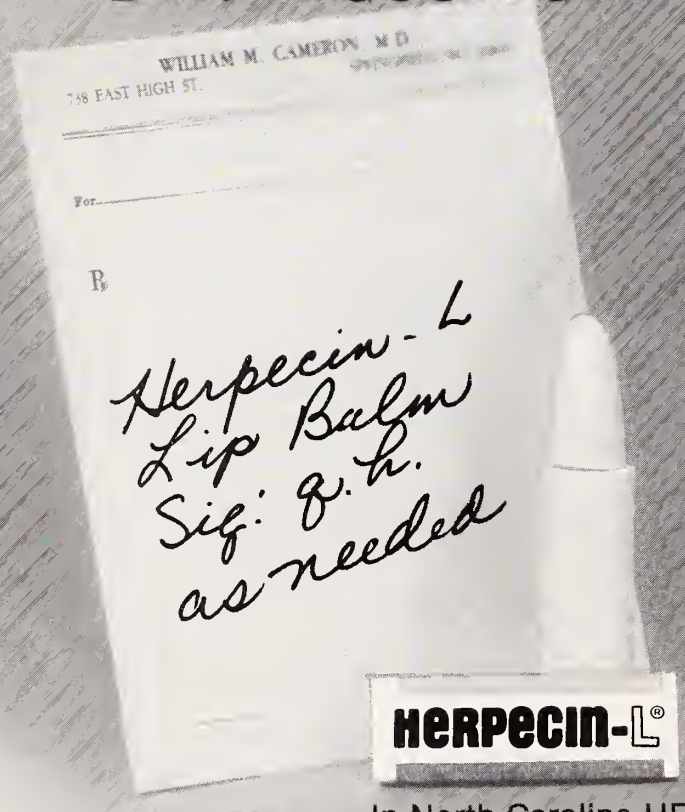
References

1 Interstudy. National HMO census report, 1985. Excelsior, MN, 1986.

2 North Carolina Foundation for Alternative Health Programs. Health maintenance organizations, status report for North Carolina. Raleigh, 1986.

3 Wolinsky F. The performance of health maintenance organizations, an analytic review. Milbank Mem Fund Q., 1980;58:537-87.
4 Ellsbury K. A guide for primary care physicians on HMOs. University of Washington, Department of Family Medicine, Seattle, WA; unpublished report, 1985.
5 Luft H. Health maintenance organizations, dimensions of performance. New York: Wiley & Sons, 1981.
6 Department of Health and Human Services. Guide for fee-for-service medical groups on affiliation with HMOs. DHHS publication no. PHS 1983-381-166:2031. Washington D.C.: Government Printing Office 1983.
7 Department of Health and Human Services; HMO of Pennsylvania: a case study of an IPA in Willow Grove, PA. DHHS publication no. 82-10494, Washington D.C.: Government Printing Office, 1982.
8 Department of Health and Human Services. Health maintenance organizations. Physicians association of Clackamas County: a case study of an IPA in Gladstone, Oregon. DHHS publication no. 82-5675. Washington D.C.: Government Printing Office, 1982.
9 Medical practice in the 1980s, physicians look at their changing profession. Menlo Park, CA: Harris and Associates, 1980.
10 Freund D, Allen K. Factors affecting physicians' choice to practice in a fee-for-service vs. individual practice association. Med Care 1985;23:799-809.
11 Sommers A. And who shall be the gate keeper? The role of the primary physician in the health care delivery system. Inquiry 1984;20:301-13.
12 Fuchs V. The coming challenge to American physicians. N Engl J Med 1981;304:1487-90.
13 Burke R. The pros and cons of independent practice associations. Ohio State Med J 1979;75:318-9.
14 Shouldice R. Should fee-for-service group practices develop a prepaid component? Med Group Management 1981;28:54-9.
15 Hurley R. Toward a behavioral model of the physician as case manager. Soc Sci Med 1986;23:75-82.
16 Fox P, Steele R. Determinants of HMO success. Office of Health Maintenance Organizations, Washington, D.C.: Contract no. 240-83-0095, Jan. 1986.

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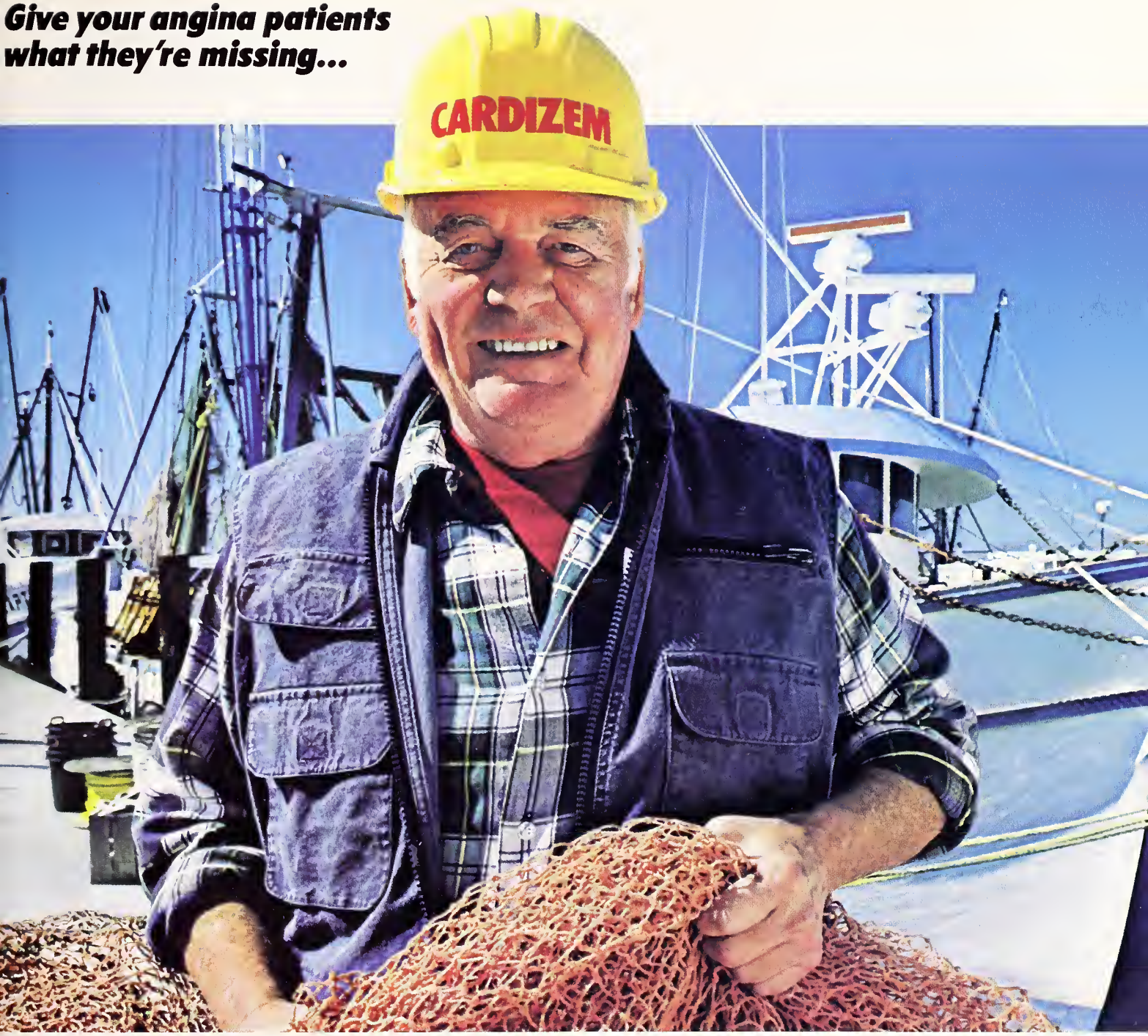
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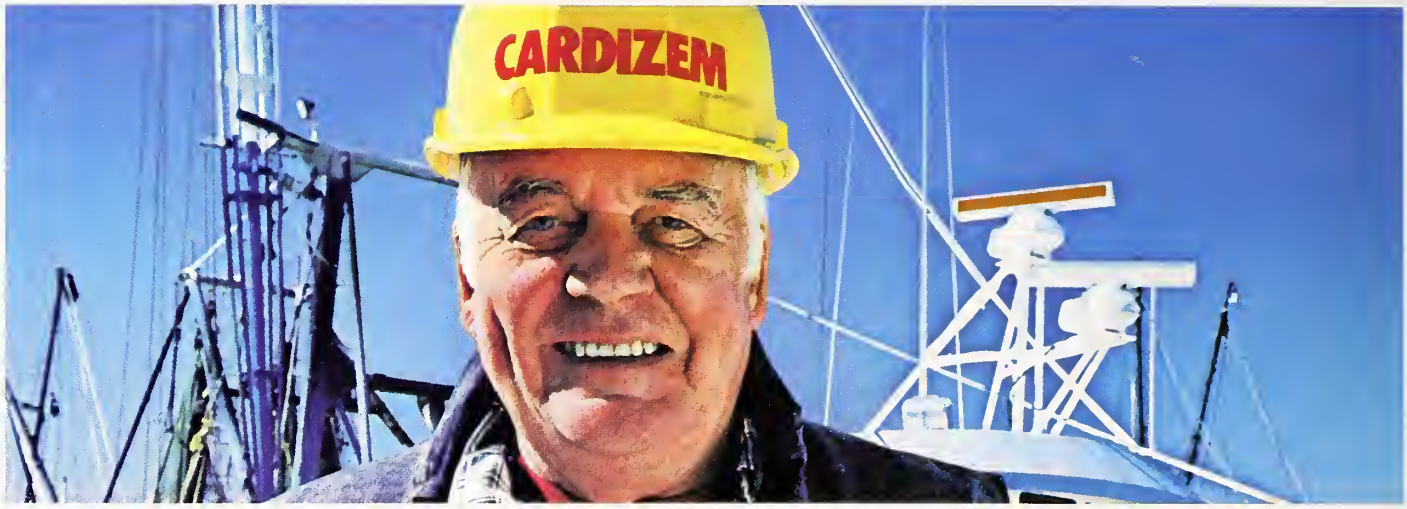
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Professional Use Information

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CONTRAINDICATIONS
CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. ***Cardiac Conduction.*** *CARDIZEM prolongs AV nodal refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1,243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.*
2. ***Congestive Heart Failure.*** *Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt).*
   Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. ***Hypotension.*** *Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.*
4. ***Acute Hepatic Injury.*** *In rare instances, significant elevations in enzymes such as alkaline phosphatase, CPK, LDH, SGOT, SGPT, and other symptoms consistent with acute hepatic injury have been noted. These reactions have been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertain in most cases, but probable in some. (See PRECAUTIONS.)*

PRECAUTIONS
General. *CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.*
Drug Interaction. *Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)*
Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.
Carcinogenesis, Mutagenesis, Impairment of Fertility. *A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.*
Pregnancy. *Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.*
There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.
Nursing Mothers. *Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted.*
Pediatric Use. *Safety and effectiveness in children have not been established.*

ADVERSE REACTIONS
Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.
In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.
The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences as well as their frequency of presentation are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%). In addition, the following events were reported infrequently (less than 1%):

Cardiovascular:	*Angina, arrhythmia, AV block (first degree), AV block (second or third degree — see conduction warning), bradycardia, congestive heart failure, flushing, hypotension, palpitations, syncope.*
Nervous System:	*Amnesia, gait abnormality, hallucinations, insomnia, nervousness, paresthesia, personality change, somnolence, tinnitus, tremor.*
Gastraintestinal:	*Anorexia, constipation, diarrhea, dysgeusia, dyspepsia, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH (see hepatic warnings), vomiting, weight increase.*
Dermatologic:	*Petechiae, pruritus, photosensitivity, urticaria.*
Other:	*Amblyopia, dyspnea, epistaxis, eye irritation, hyperglycemia, nasal congestion, nocturia, osteoarticular pain, polyuria, sexual difficulties.*

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: alopecia, gingival hyperplasia, erythema multiforme, and leukopenia. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established. *Issued 7/86*
See complete Professional Use Information before prescribing.

References: ***1.*** *Pepine CJ, Feldman RL, Hill JA, et al: Clinical outcome after treatment of rest angina with calcium blockers: Comparative experience during the initial year of therapy with diltiazem, nifedipine, and verapamil. Am Heart J 1983; 106(6):1341-1347.* ***2.*** *Shapira W: Calcium channel blockers: Actions on the heart and uses in ischemic heart disease. Consultant 1984;24(Dec):150-159.* ***3.*** *Johnstan DL, Lesoway R, Humen DP, et al: Clinical and hemodynamic evaluation of propranalol in combination with verapamil, nifedipine and diltiazem in exertional angina pectaris: A placebo-controlled, double-blind, randomized, crossover study. Am J Cardiol 1985;55:680-687.* ***4.*** *Cohn PF, Braunwald E: Chronic ischemic heart disease, in Braunwald E (ed): Heart Disease: A Textbook of Cardiovascular Medicine, ed 2. Philadelphia, WB Saunders Co, 1984, chap 39.* ***5.*** *Schroeder JS: Calcium and beta blockers in ischemic heart disease: When to use which. Mod Med 1982;50(Sept):94-116.*

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Buspirone

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Timothy E. Poe, Pharm.D.

Buspirone (Buspar[R]), the newest anxiolytic marketed in the United States, offers several possible advantages over currently available drugs such as benzodiazepines. Buspirone alleviates anxiety as do the benzodiazepines, but causes less sedation and functional impairment. It also lacks the abuse potential and tendency to cause physical dependence.[1] However, buspirone does not have the anticonvulsant and muscle relaxant effects the benzodiazepines have.

Buspirone is both chemically and pharmacologically distinct from the benzodiazepines and other antianxiety agents. Although the mechanism of action of buspirone is not precisely known, it appears to be different from that of the benzodiazepines.

Buspirone has been shown to be clinically effective for the treatment of anxiety. In general the drug's potency has been shown to equal that of diazepam on a mg-to-mg basis. Most studies have used four weeks as the duration of treatment and compared buspirone to diazepam, lorazepam, alprazolam, and clorazepate.[2-5]

The most frequently reported side effects for buspirone are dizziness, nausea, headache, nervousness, lightheadedness, and excitability.[6] The more common events that have caused discontinuation of treatment are: central nervous system disturbances (3.4%), primarily in the form of dizziness, insomnia, nervousness, drowsiness, and lightheadedness; gastrointestinal disturbances (1.2%), primarily nausea; and miscellaneous disturbances (1.1%), primarily headache and fatigue. Few if any drug interactions have been documented with buspirone, nor has it been shown to interact with alcohol or other central nervous system depressants.[7]

Several studies have evaluated the effects of buspirone on psychomotor performance. In driving skills tests, buspirone has been shown to have no effect or even to improve performance compared to diazepam or alcohol.[2]

From the Department of Family and Community Medicine, and Pharmacy Education of Northwest Area Health Education Center, Bowman Gray School of Medicine of Wake Forest University, 300 S. Hawthorne Rd., Winston-Salem 27103; and School of Pharmacy, University of North Carolina, Chapel Hill 27514.

Buspirone appears to be a good choice for initiating therapy in anxious patients, particularly those patients prone to the misuse of medications. In general, patients with prior benzodiazepine use take longer to respond or do not respond as well with buspirone. It is also important to realize that buspirone will not block the benzodiazepine withdrawal syndrome. Buspirone, however, may be abruptly discontinued, as it does not appear to have a withdrawal syndrome. While buspirone is an effective anxiolytic, it is not a good p.r.n. medication. The manufacturer recommends that treatment be continued for at least three to four weeks for full therapeutic benefit.[8]

Initial dosage should be 5 mg three times daily. The dosage may be adjusted every two to three days as needed, up to 60 mg/day. For most patients, 20-30 mg/day in divided doses will be optimal.[8] Cost of Buspar[R] (AWP) is slightly greater than brand-name benzodiazepines such as Valium[R]. Generics, where available, will be less expensive. However, it is difficult to compare strictly on cost since buspirone may have advantages over currently utilized benzodiazepines. ■

Acknowledgment

This publication is prepared in association with the University of North Carolina Area Health Education Center Program.

References

1 Eison AS, Temple DL. Buspirone: review of its pharmacology and current perspectives on its mechanism of action. Am J Med 1986;80 (Suppl 3B):1-9.

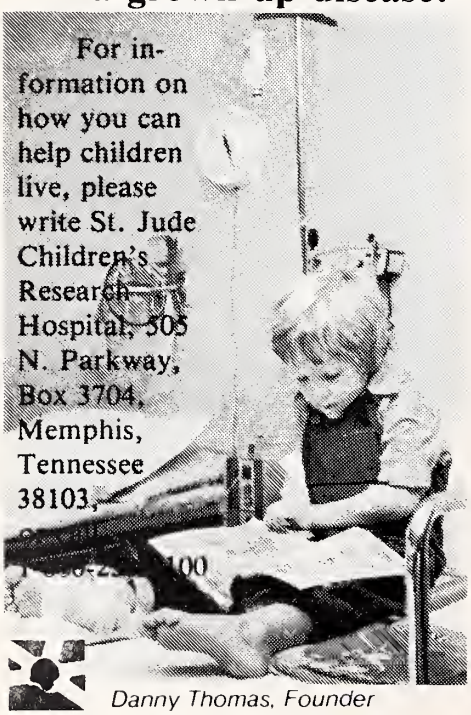
2 Moskowitz H, Smiley A. Effects of chronically administered buspirone and diazepam on driving-related skills performance. J Clin Psychiatry 1982;43:45-55.

3 Rickels K, Wiseman K, Norstad N, et al. Buspirone and diazepam in anxiety: a controlled study. J Clin Psychiatry 1982;43:81-6.

4 Cohn JB, Bowden CL, Fisher JG, et al. Double-blind comparison of buspirone and clorazepate in anxious outpatients. Am J Med 1986;80:10-6.

5 Cohn JB, Wilcox CS. Low-sedation potential of buspirone compared with alprazolam and lorazepam in treatment of anxious patients: double-blind study. J Clin Psychiatry 1986;47:409-12.
6 Package Insert. Mead Johnson Pharmaceutical Division, Bristol-Myers US Pharmaceutical and Nutritional Group. Evansville, IN, October 1986.
7 Kastenholz KV, Crismon ML. Buspirone, a novel nonbenzodiazepine anxiolytic. Clin Pharm 1984;3:600-7.
8 Product monograph. Mead Johnson Pharmaceutical Division, Bristol-Myers US Pharmaceutical and Nutritional Group. Evansville, IN, October 1986.

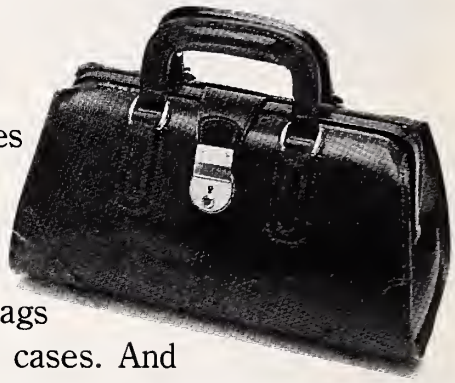
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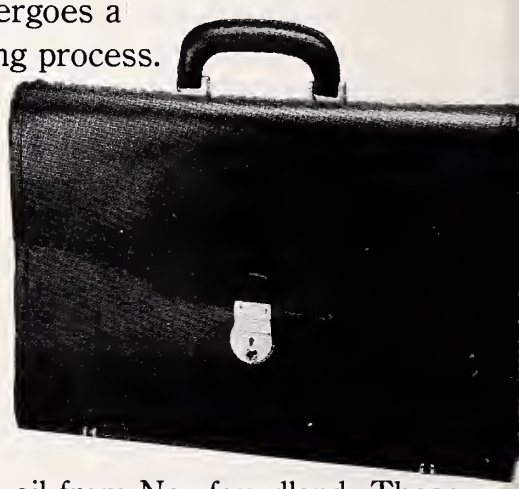
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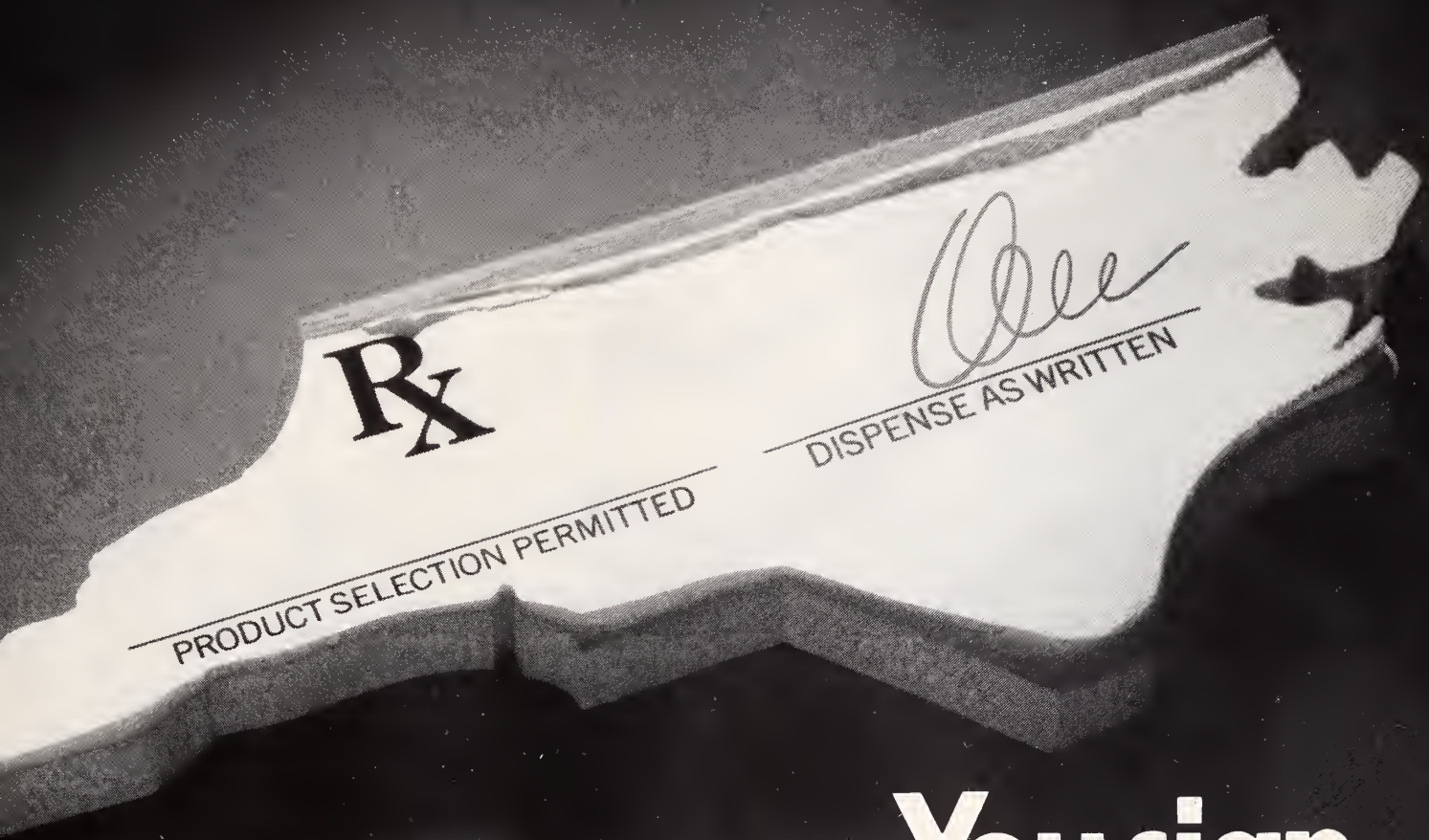
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Contraindications: Known hypersensitivity to the drug.
Warnings: Warn patients that mental and/or physical abilities required for tasks such as driving or operating machinery may be impaired, as may be mental alertness in children, and that concomitant use with alcohol or CNS depressants may have an additive effect. Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage. Withdrawal symptoms (including convulsions) reported after abrupt cessation of extended use of excessive doses are similar to those seen with barbiturates. Milder symptoms reported infrequently when continuous therapy is abruptly ended. Avoid abrupt discontinuation; gradually taper dosage.
***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**
Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically. Due to isolated reports of exacerbation, use with caution in patients with porphyria.
Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.
Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral—Adults:* Mild and moderate anxiety disorders and symptoms, 5 or 10 mg *t.i.d.* or *q.i.d.*; severe states, 20 or 25 mg *t.i.d.* or *q.i.d. Geriatric patients:* 5 mg *b.i.d.* to *q.i.d.* (See Precautions.)
Supplied: Librium® (chlordiazepoxide HCl/Roche) *Capsules*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100, available in boxes of 4 reverse-numbered cards of 25, and in boxes containing 10 strips of 10. Libritabs® (chlordiazepoxide/Roche) *Tablets*, 5 mg and 10 mg—bottles of 100 and 500; 25 mg—bottles of 100. With respect to clinical activity, capsules and tablets are indistinguishable. P.I. 0286

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Letters to the Editor

Dr. Dykers's reply to Drs. MacCormack and Meriwether

To the Editor:

Thank you for publishing my advertisement about the AIDCARD and for publishing Dr. MacCormack's and Meriwether's concerns (NCMJ 48:226-7, 236). I certainly share many of those concerns, to the point of having changed the name from SAFECARD to AIDCARD. We must be careful to diminish risks realistically and not with false expectations. Whereas it is vital to reduce hysteria about AIDS as transmissible in the classroom and a work place, anyone who is not frightened of AIDS as a sexually transmitted and blood borne disease is foolish. Our next immediate struggle is to recognize AIDS as a heterosexual disease.

For this reason, I think it is very important to bring people into the medical care system for proper interpretation of laboratory results and for counselling as to how to behave on that basis. We have invited Dr. Ron Levine to the Thursday Morning Intellectual Society on the 7th of May 1987 to give us his views on these matters.

However, overstatements, such as saying that treatment services for Hepatitis B are available free of charge at all local health departments, are misleading. Confidentiality is precarious at best and anonymity is automatically lost when counselling begins. That trade-off is inescapable. By protecting anonymity at the stage of test results, we hope to be able to encourage people to voluntarily give up their anonymity and enter into a confidential counselling relationship.

Drs. MacCormack and Meriwether may wish in the future to refrain from telling us what "absolutely must accompany all screening for communicable diseases." We have not, in recent memory, faced a communicable disease with such a high fatality rate and no cure and such a long asymptomatic infectious carrier state. Plague, typhoid, TB, polio, and syphilis are going to appear as minor annoyances in comparison. The Division of Health Services will be overwhelmed and they will come to appreciate every private effort.

One often tends to glibly throw around such terms as safe sex.[1] Safe is a relative word, certainly as regards AIDS. The most important consideration is that of motivation. A person most highly motivated to practice safe sex is that person who is negative for HTLV-III antibodies and wants to stay that way. Our health department has already recognized the difficulties of some persons who are antibody positive and who do not possess the altruistic motivations to refrain from continuing to spread the virus. It is a grave threat to the public health to ignore the tremendous value of creating a body of tested negatives who are highly motivated to stay negative.

An ounce of prevention is worth a pound of cure, and when you have no cure, that dictum reaches astronomical proportions. Whereas it is most appropriate for public tax monies to be directed toward the highest risk groups and high yields, it is equally appropriate for private monies to seek peace of mind. One of the values of our AIDCARD system is that it is easy to utilize in most physicians' offices. All that is required is a phlebotomy, a centrifuge, and a mailbox.

Much of the basis for the objections to the AIDCARD voiced by Drs. MacCormack and Meriwether became obsolete by the time the letter was written. The most dangerous person in our society today is the heterosexual who was previously thought of as being in a low risk group and who has the HIV virus and does not know it and continues to spread the same.[1] The inclusion of the Chlamydia antibody test is solely done to pull people into the system for further evaluation. At the recent International Conference on AIDS in children, adolescents, and heterosexual adults in Atlanta, Georgia, Dr. Nathan Clumeck of St. Pierre Hospital in Brussels, Belgium said, "the occurrence of a previous or concurrent sexually transmitted disease is crucial." He suspects that females may well be at much greater risk for the virus than males and that inflammation of the genitourinary tract is a major facilitator of virus transfer.

We have so much yet to learn. I'm sure I'll change my mind about many things about this disease as time passes and our knowledge increases. I expect we all will have to do that. But for now, I fully expect the AIDCARD profile to become a standard of care for anyone who has a sexually transmitted disease and I fully expect it to soon be well accepted as a valuable tool in promoting safe sex.

John R. Dykers, Jr., M.D.
P.O. Box 565
Siler City 27344

[1] Goedert JJ. What is safe sex? New Engl J Med 1987;316:1339–42.



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Before prescribing, see complete prescribing information in SK&F CO. literature or *PDR*. The following is a brief summary.

WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications. Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings. Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of triamterene and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Angiotensin-converting enzyme (ACE) inhibitors can elevate serum potassium; use with caution with 'Dyazide'. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function. Thiazides may add to or potentiate the action of other antihypertensive drugs. Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

BRS-DZ:L42

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Bulletin Board

Continuing Medical Education

Please note: The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina (ECU) and UNC Schools of Medicine, Dorothea Dix, and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or cosponsored by these schools automatically qualify for AMA Category I credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been obtained, this also is indicated.

IN STATE

June 11-13

34th Annual Mountaintop Medical Assembly
Place: Waynesville
Info: George W. Brown, M.D., Mountaintop Medical Assembly, Waynesville 28786. 704/456-6021

June 15-17

Surgery for Coronary Artery Disease
Place: Durham
Fee: $460 ACC members; $525 others
Credit: 17 hours Category I ACCME
Info: Registration Secretary, Extramural Programs Dept, American College of Cardiology, 9111 Old Georgetown Rd., Bethesda, MD 20814. 800/253-4636; in MD or AK 301/897-5400

July 3-5

NCMS 17th Annual Sports Medicine Symposium
Place: Wrightsville Beach
Info: W. Alan Skipper, 919/833-3836 or 800/722-1350

July 13-15

U.S. Olympic Festival Sports Medicine Conference: Part II, Athletic Injury Prevention and Treatment
Place: Durham
Credit: pending
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

July 13-17

29th Annual Postgraduate Course/Morehead Symposium
Place: Durham
Credit: 26 hours Category I AMA; AAFP 24.75 prescribed
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

July 27-31

10th Annual Radiology Postgraduate Course
Place: Atlantic Beach
Credit: 20 hours Category I AMA
Info: Cynthia C. Easterling, M.Ed., Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878 or 684-6485; outside NC 800/222-9984

August 14-16

Family Physicians Weekend
Place: Wrightsville Beach, NC
Credit: 12 hours AAFP
Info: Paula Baker, Meeting Coordinator, North Carolina Academy of Family Physicians, P.O. Box 18469, Raleigh 27619. 919/781-6467

August 22-23

Urology — State of the Art
Place: Winston-Salem
Fee: $200
Info: CME Coordinator, Dept. of CME, AMA, 535 N. Dearborn St., Chicago IL, 60610. 312/645-4952

NCMJ will no longer publish an out-of-state Continuing Medical Education list.

Classified Ads

KEEPING LONG HOURS? Too many patients and not enough time? Have you considered employing a physician assistant to help you extend your practice without extending yourself: The North Carolina Academy of Physician Assistants can supply you with helpful information about the training and capabilities of physician assistants. For more information contact Dean Minton, PA-C, NCAPA Public Affairs Chairman, 209 Shenendoah Dr., Winston Salem 27103. 919/748-2247 (work); 919/768-4934 (home).

MARTINSBURG, WEST VIRGINIA - Seeking director, board prepared or certified in emergency medicine, for busy 268 bed hospital within 1-1/2 hour drive of Washington, D.C. Attractive compensation and malpractice insurance provided. Please submit resume to Emergency Consultants, Inc., One Windemere Place, Room 33, Petoskey, MI 49770. 800/253-7092 or in Michigan 800/632-9650.

BLOWING ROCK: Family Practitioner to join two doctor practice in year round resort community. 28 bed JCAH approved hospital with associated nursing facility. Blowing Rock Medical Clinic, P.A., P.O. Box 8, Blowing Rock, 28605.

PRACTICE OPPORTUNITY — PEDIATRICIAN: Practice opportunity for Board Eligible/Board Certified Pediatrician in a warm and friendly community in Eastern South Carolina, North Myrtle Beach vicinity. Ideal recreational opportunities to include the beach, sailing, fishing, tennis and golf. The pediatric practice is very well established. Excellent financial package from hospital— a 105 bed modern hospital with a 40 bed Extended Care facility. Contact Alton Ewing, Assistant Administrator, Loris Community Hospital, Loris, SC 29569. 803/756-4011.

INTERNIST OR NONINVASIVE CARDIO: SW North Carolina. Family-oriented, semirural, tourist town 1-2 hours from Asheville and Atlanta. Supported by <100 bed hospital, 3 county drawing area of 70K. Outdoor amenities: hunting/fishing/camping/skiing/etc. Compensation package. Contact Bob, Tyler & Company, 9040 Roswell Road, Atlanta, GA 30338. Collect 404/641-6411.

ASSISTANT HEALTH DIRECTOR - Mecklenburg County is currently seeking an Assistant Health Director to head the Personal Health division consisting of seven programs for a large urban county health department. Program areas include Child Health, Children's Special Health Services, Dental Health, Nutrition and Dietetic Services, WIC, Family Planning and Maternity Care. Administratively responsible for a staff of 85 in addition to Clinical responsibility of direct patient care. Must be Board Certified in OB-GYN specialty, eligible for North Carolina Medical licensure. Public Health experience/training preferred. Salary range $48,480-$68,381 with competitive fringe benefits package. Qualified applicants should submit resume and salary history in confidence to: Recruitment Administrator, Mecklenburg County Personnel, 720 East Fourth Street, Suite 300, Charlotte 28202. EEO M/F/H.

VIRGINIA BEACH, VA: Opportunity to join two established practitioners in desirable growth area. Equitable terms in traditional family practice setting. Write to Code 25, NCMJ, Box 3910 DUMC, Durham 27710.

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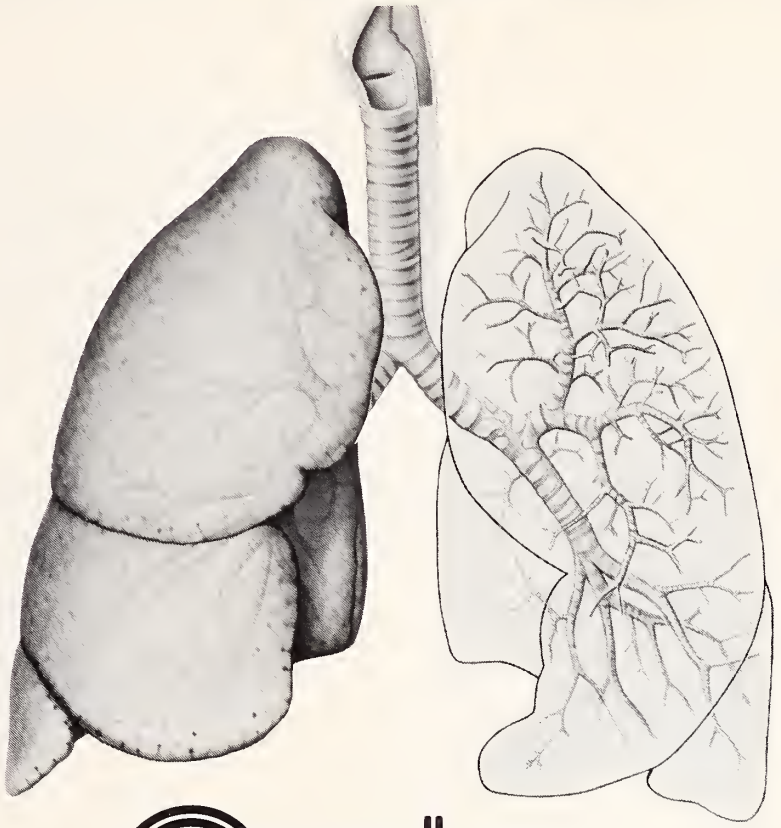
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Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Summary. Consult the package literature for prescribing information.

Indications: Lower respiratory infections, including pneumonia, caused by susceptible strains of *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Streptococcus pyogenes* (group A β-hemolytic streptococci).

Contraindication:
Known allergy to cephalosporins.

Warnings:
CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:
- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)
Therapy-related adverse reactions are uncommon. Those reported include:
- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, and serum-sickness-like reactions that have included erythema multiforme [rarely, Stevens-Johnson syndrome] or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever): 1.5%; usually subside within a few days after cessation of therapy. Serum-sickness-like reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%; and, rarely, thrombocytopenia.

Abnormalities in laboratory results of uncertain etiology
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- Transient fluctuations in leukocyte count (especially in infants and children).
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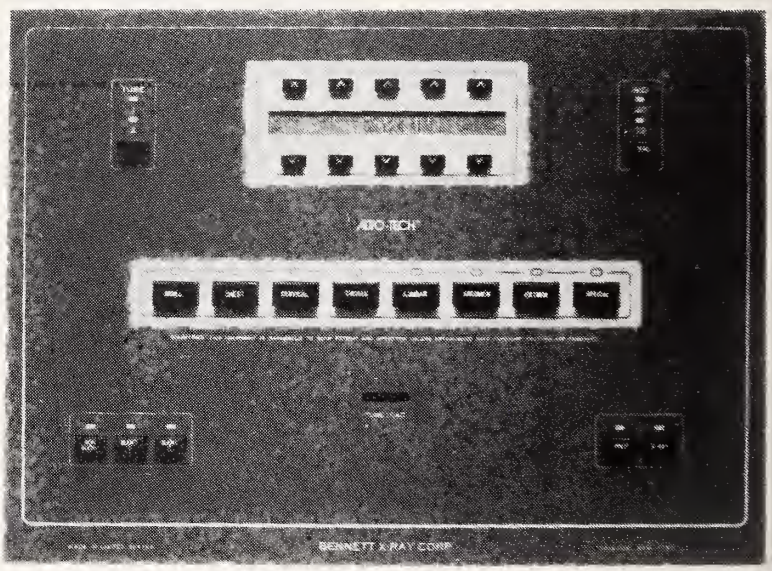
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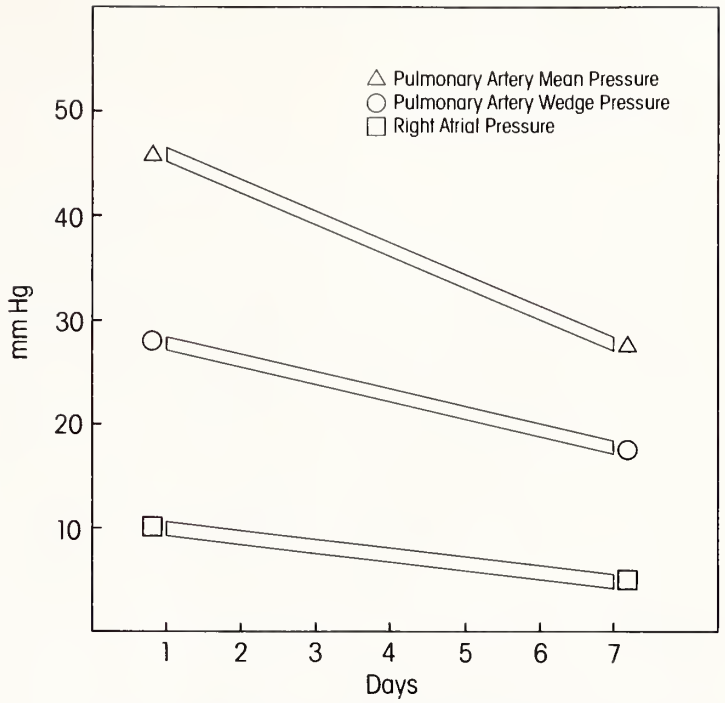
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References: 1. Olsen KH, *et al: Postgrad Med J 51*(Suppl 6):54-63, 1975. **2.** Hondler B, Dhingra RC, Rosen KM: *J Clin Pharmacol 21*:706-711, Nov-Dec 1981. **3.** Broter DC, *et al: Clin Pharmacol Ther 34*:207-213, Aug 1983. **4.** Broter DC, Fox WR, Chennovosin P: *J Clin Pharmacol 21*:599-603, Nov-Dec 1981. **5.** Davies DL, *et al. Clin Pharmacol Ther 15*:141-155, Feb 1974.

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CONTRAINDICATIONS: Anuria. Hypersensitivity and in patients in hepatic coma or in states of severe electrolyte depletion. Although Bumex can be used to induce diuresis in renal insufficiency, any marked increase in blood urea nitrogen or creatinine, or the development of oliguria during therapy of patients with progressive renal disease, is an indication for discontinuation of treatment.
WARNINGS: Dose should be adjusted to patient's needs. Excessive doses or too frequent administration can lead to profound water loss, electrolyte depletion, dehydration, reduction in blood volume and circulatory collapse with the possibility of vascular thrombosis and embolism, particularly in elderly patients.
Prevention of hypokalemia requires particular attention in patients receiving digitalis and diuretics for congestive heart failure, hepatic cirrhosis and ascites, states of aldosterone excess with normal renal function, potassium-losing nephropathy, certain diarrheal states, or other states where hypokalemia is thought to represent particular added risks to the patients.
In patients with hepatic cirrhosis and ascites, sudden alterations of electrolyte balance may precipitate hepatic encephalopathy and coma. Treatment in such patients is best initiated in the hospital with small doses and careful monitoring of the patient's clinical status and electrolyte balance. Supplemental potassium and/or spironolactone may prevent hypokalemia and metabolic alkalosis in these patients.
In cats, dogs and guinea pigs, Bumex has been shown to produce ototoxicity. Since Bumex is about 40 to 60 times as potent as furosemide, it is anticipated that blood levels necessary to produce ototoxicity will rarely be achieved. The potential for ototoxicity increases with intravenous therapy, especially at high doses.
Patients allergic to sulfonamides may show hypersensitivity to Bumex.
PRECAUTIONS: Measure serum potassium periodically and add potassium supplements or potassium-sparing diuretics, if necessary. Periodic determinations of other electrolytes are advised in patients treated with high doses or for prolonged periods, particularly in those on low salt diets.
Hyperuricemia may occur. Reversible elevations of the BUN and creatinine may occur, especially with dehydration and in patients with renal insufficiency. Bumex may increase urinary calcium excretion.
Possibility of effect on glucose metabolism exists. Periodic determinations of blood sugar should be done, particularly in patients with diabetes or suspected latent diabetes.
Patients should be observed regularly for possible occurrence of blood dyscrasias, liver damage or idiosyncratic reactions.
Especially in presence of impaired renal function, use of parenterally administered Bumex should be avoided in patients to whom aminoglycoside antibiotics are also being given, except in life-threatening conditions.
Drugs with nephrotoxic potential and bumetanide should not be administered simultaneously.
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Probenecid should not be administered concurrently with Bumex.
Concurrent therapy with indomethacin not recommended
Bumex may potentiate the effects of antihypertensive drugs, necessitating reduction in dosage.
Interaction studies in humans have shown no effect on digoxin blood levels.
Interaction studies in humans have shown Bumex to have no effect on warfarin metabolism or on plasma prothrombin activity.
Pregnancy: Bumex should be given to a pregnant woman only if the potential benefit justifies the potential risk to the fetus.
Bumetanide may be excreted in breast milk.
Pediatric Use: Safety and effectiveness below age 18 not established.
ADVERSE REACTIONS: Muscle cramps, dizziness, hypotension, headache and nausea, and encephalopathy (in patients with preexisting liver disease).
Less frequent clinical adverse reactions are weakness, impaired hearing, rash, pruritus, hives, electrocardiogram changes, abdominal pain, arthritic pain, musculoskeletal pain and vomiting.
Other clinical adverse reactions are vertigo, chest pain, ear discomfort, fatigue, dehydration, sweating, hyperventilation, dry mouth, upset stomach, renal failure, asterixis, itching, nipple tenderness, diarrhea, premature ejaculation and difficulty maintaining an erection.
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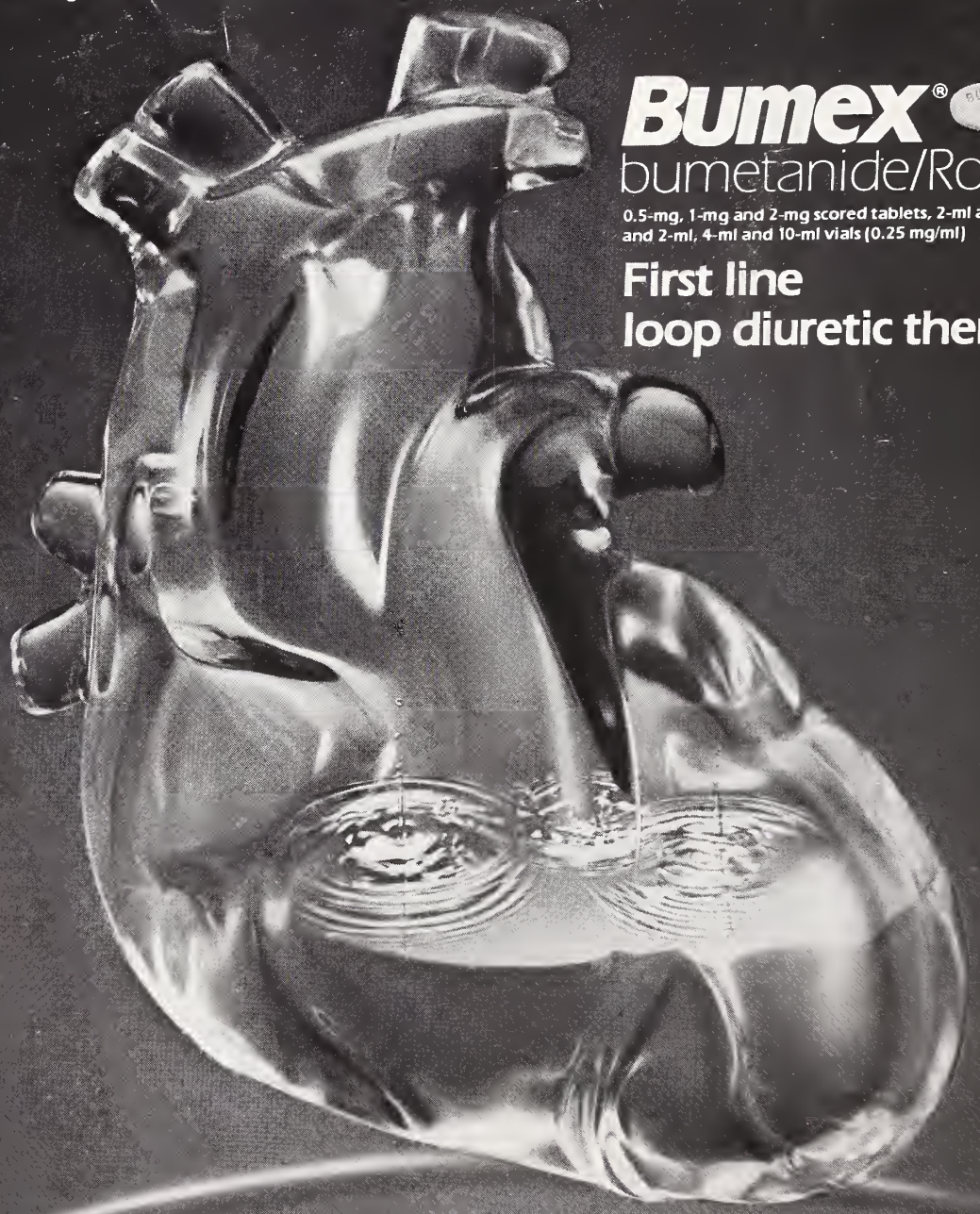
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North Carolina Medical Journal

For Doctors and their Patients

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David L. Kelly, Jr., M.D.

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For Doctors and their Patients

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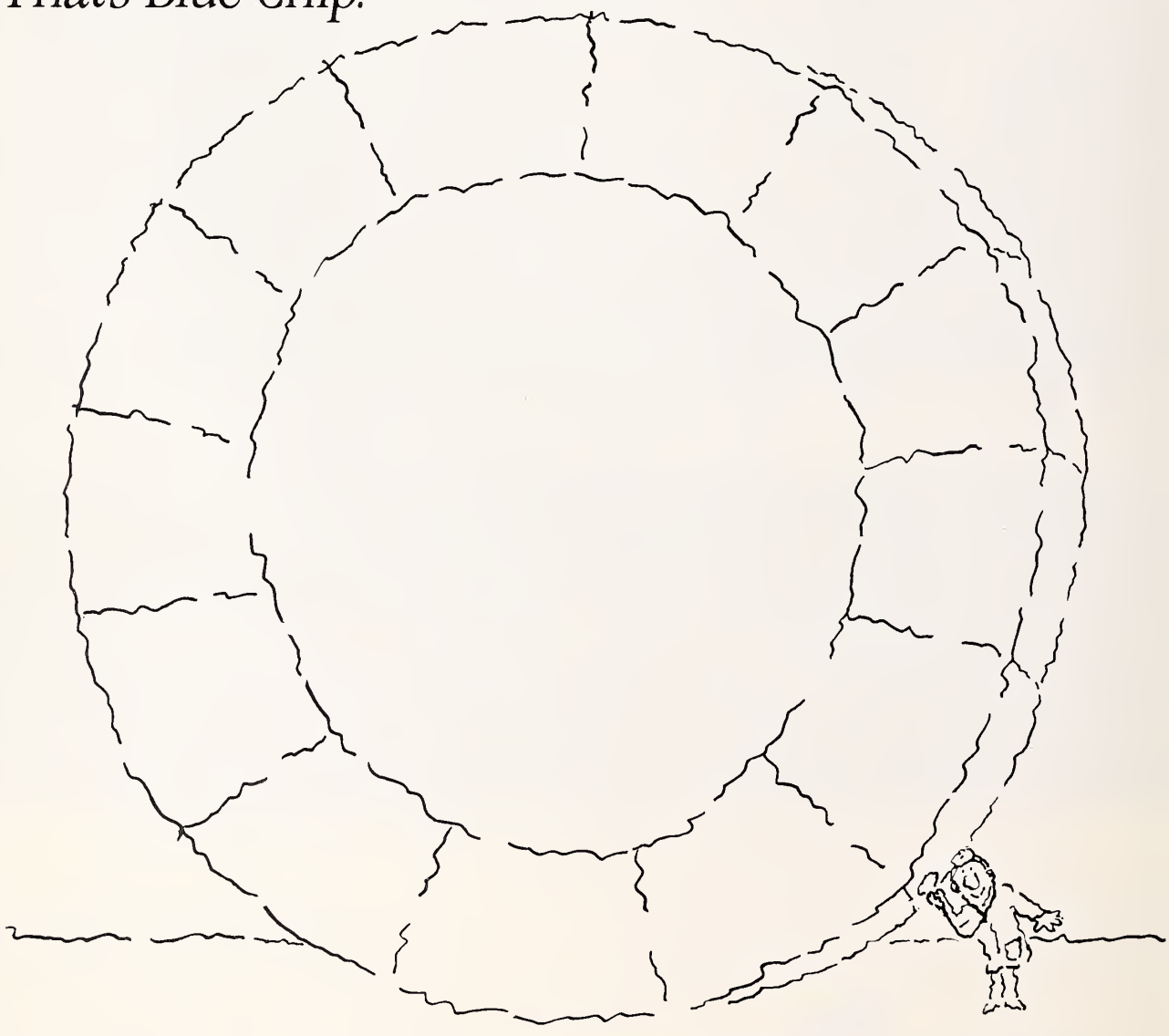
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North Carolina Medical Journal

FOR DOCTORS AND THEIR PATIENTS

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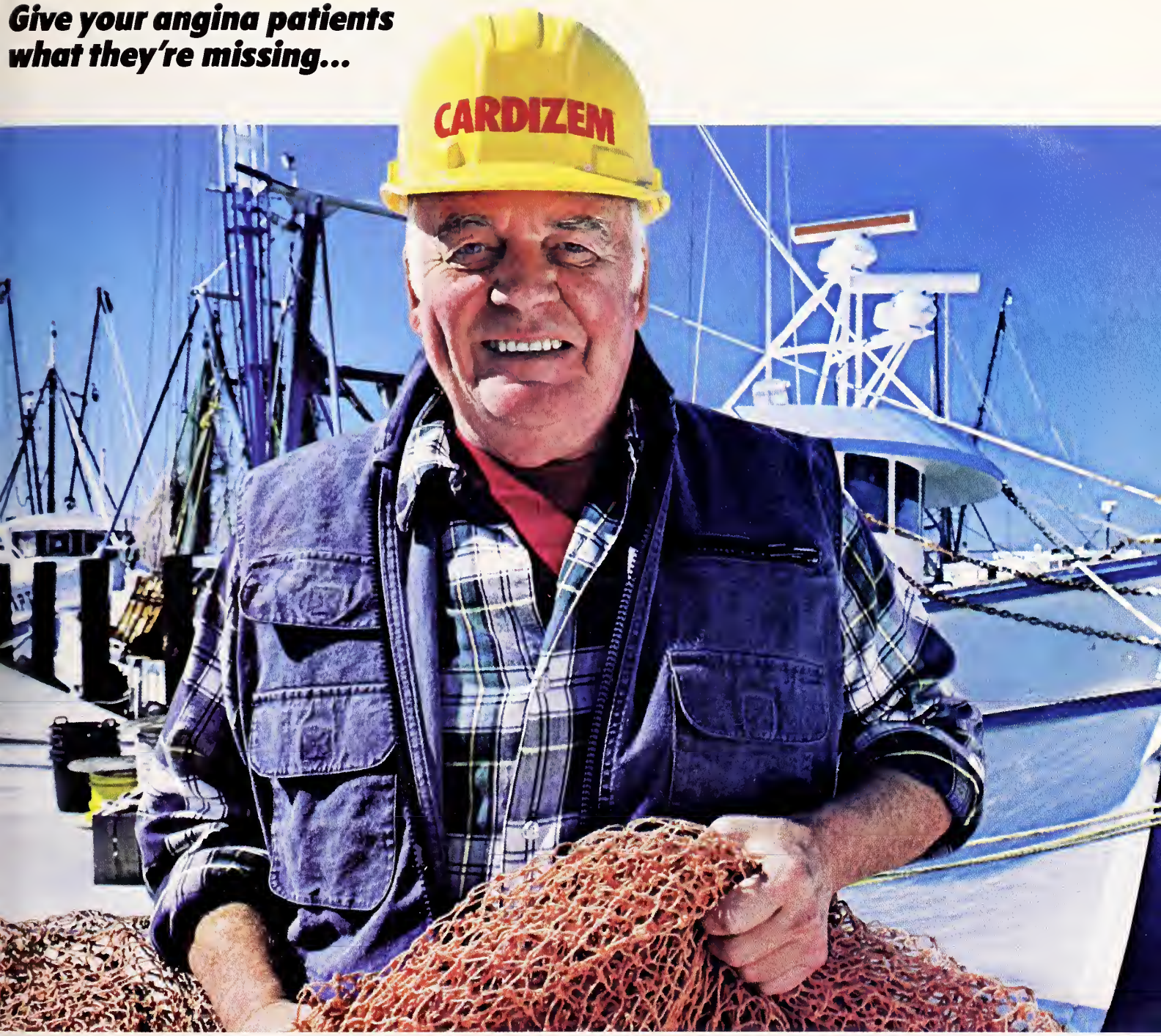
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WARNINGS

1. ***Cardiac Conduction.*** *CARDIZEM prolongs AV node refroctory periods without significontly prolonging sinus node recovery time, except in potients with sick sinus syndrome. This effect moy rorely result in obnormolly slow heort rates (particulorly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1,243 patients for 0.48%). Concomitont use of diltiozem with beto-blockers or digitolis moy result in odditive effects on cardioc conduction. A patient with Prinzmetol's ongino developed periods of osystole (2 to 5 seconds) after o single dose of 60 mg of diltiozem.*
2. ***Congestive Heart Failure.*** *Although diltiozem hos o negotive inotropic effect in isoloted onimol tissue preporations, hemodynomic studies in humons with normol ventricular function hove not shown o reduction in cordioc index nor consistent negative effects on controctility (dp/dt).*
   Experience with the use of CARDIZEM olone or in combinotion with beto-blockers in patients with impoired ventricular function is very limited. Coution should be exercised when using the drug in such patients.
3. ***Hypotension.*** *Decreoses in blood pressure osso-ciated with CARDIZEM therapy moy occosionolly result in symptomatic hypotension.*
4. ***Acute Hepatic Injury.*** *In rore instonces, significant elevations in enzymes such os olkoline phospho-tose, CPK, LDH, SGOT, SGPT, ond other symptoms consistent with ocute hepatic injury hove been noted. These reoctions hove been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertoin in most coses, but prob-oble in some. (See PRECAUTIONS.)*

PRECAUTIONS
General. *CARDIZEM (diltiozem hydrochloride) is extensively metobolized by the liver ond excreted by the kidneys ond in bile. As with ony new drug given over prolonged periods, loboratory porameters should be monitored at regulor intervols. The drug should be used with coution in patients with impoired renol or hepatic function. In subocute ond chronic dog ond rat studies designed to produce toxicity, high doses of diltiozem were associoted with hepatic domage. In special subocute hepatic studies, orol doses of 125 mg/kg and higher in rats were associated with histologicol changes in the liver which were reversible when the drug wos discontinued. In dogs, doses of 20 mg/kg were also ossociated with hepotic changes; however, these changes were reversible with continued dosing.*

Drug Interaction. *Pharmocologic studies indicate that there moy be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)*

Controlled and uncontrolled domestic studies suggest thot concomitont use of CARDIZEM ond beto-blockers or digitalis is usually well tolerated. Avoiloble data are not sufficient, however, to predict the effects of concomitont treatment, particulorly in patients with left ventricular dysfunction or cordioc conduction obnormalities. In healthy volunteers, diltiozem hos been shown to increose serum digoxin levels up to 20%.

Corcinogenesis, Mutagenesis, Impairment of Fertility. *A 24-month study in rats ond o 21-month study in mice showed no evidence of corcinogenicity. There wos olso no mutogenic response in in vitro bocteriol tests. No intrinsic effect on fertility wos observed in rats.*

Pregnancy. *Category C. Repraduction studies have been conducted in mice, rats, ond robbits. Administration of doses ronging from five to ten times greoter (on a mg/kg bosis) thon the doily recommended therapeutic dose hos resulted in embryo ond fetal lethality. These doses, in some studies, hove been reported to couse skeletal obnormolities. In the perinatol/postnatol studies, there wos some reduction in early individuol pup weights and survivol rotes. There wos an increosed incidence of stillbirths ot doses of 20 times the humon dose or greater.*

There ore no well-controlled studies in pregnont women; therefore, use CARDIZEM in pregnant women only if the potentiol benefit justifies the potential risk to the fetus.

Nursing Mothers. *Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk moy oppraximate serum levels. If use of CARDIZEM is deemed essential, on olternative method of infont feeding should be instituted.*

Pediatric Use. *Safety ond effectiveness in children have not been established.*

ADVERSE REACTIONS
Serious odverse reoctions hove been rore in studies corried out to date, but it should be recognized that patients with impaired ventricular function ond cordioc conduction obnormolities hove usually been excluded.

In domestic ploceba-controlled triols, the incidence of odverse reoctions reported during CARDIZEM therapy wos not greater than that reported during placebo therapy

The following represent occurrences observed in clinicol studies which con be at least reasonobly osso-ciated with the pharmacology of calcium influx inhibition. In many coses, the relationship to CARDIZEM hos not been established. The most comman occurrences as well os their frequency of presentation are: edema (2.4%), heodoche (2.1%), nausea (1.9%), dizziness (1.5%), rosh (1.3%), osthenio (1.2%). In oddition, the following events were reported infrequently (less than 1%):

Cordiovasculor:	*Angina, arrhythmio, AV block (first degree), AV block (second or third degree — see conductian warning), brodycardia, congestive heart foilure, flushing, hypotension, polpi-tations, syncope.*
Nervous System:	*Amnesio, gait abnormality, hallucl-nations, insomnio, nervousness, poresthesia, personality chonge, somnolence, tinnitus, tremor.*
Gastraintestinal:	*Anorexio, constipation, diarrhea, dysgeusia, dyspepsio, mild elevations of alkoline phosphatose, SGOT, SGPT, ond LDH (see hepatic wornings), vamiting, weight increase.*
Dermatologic:	*Petechioe, pruritus, photosensitivity, urticario.*
Other:	*Amblyopio, dyspnea, epistoxis, eye imitation, hyperglycemio, nosal congestion, nocturio, osteoarticular pain, polyuria, sexual difficulties.*

The following postmorketing events have been reported infrequently in patients receiving CARDIZEM. alopecio, gingivol hyperplosio, erythemo multiforme, ond leukopenio. However, o definitive couse ond effect between these events ond CARDIZEM therapy is yet to be estoblished.

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References: 1. *Pepine CJ, Feldmon RL, Hill JA, et ol: Clinicol outcome after treatment of rest ongino with colcium blockers: Comparative experience during the initiol yeor of therapy with diltiozem, nifedipine, ond veropomil. Am Heort J 1983; 106(6):1341-1347.* ***2.*** *Shopiro W: Colcium chonnel blockers: Actians on the heart and uses in ischemic heort diseose. Consultant 1984;24(Dec):150-159.* ***3.*** *Johnston DL, Lesowoy R, Humen DP, et ol: Clinical and hemodynomic evaluation of propronolol in combinotion with verapamil, nifedipine and diltiozem in exertionol ongino pectaris: A placebo-controlled, double-blind, rondomized, crossaver study Am J Cordiol 1985;55:680-687.* ***4.*** *Cahn PF, Brounwold E: Chronic ischemic heart disease, in Brounwold E (ed): Heart Disease: A Textbook of Cordiovasculor Medicine, ed 2. Philodelphio, WB Saunders Co, 1984, chop 39.* ***5.*** *Schroeder JS: Colcium ond beto blockers in ischemic heart disease: When to use which. Mod Med 1982;50(Sept):94-116.*

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To Test or Not To Test

Issues in Community Screening for Human Immunodeficiency Virus

Suzanne Landis, M.D., M.P.H.

Prevention of the spread of AIDS and reduction in the reservoir of high risk individuals is a major priority in public health currently and will continue to be so in the coming decade. Successful management of the disease will require integration of classic public health methods of disease surveillance and infection control with emerging principles of lifestyle modification. One aspect of disease surveillance is detection of persons who are asymptomatic but infected with human immunodeficiency virus (HIV). Mass screening, either voluntary or mandatory, has been discussed by some North Carolina legislators[1] and health care professionals[2,3] as a means of reducing HIV transmission; this assumes that all those knowledgeable about their infection status will significantly change their behavior in an effort to reduce the transmission of the virus.

Knowledge of HIV infection personalizes risk reduction instruction and underscores the need for avoiding unprotected intercourse. Knowledge of positive serostatus also enables the individual to:

a. Inform prospective and previous sexual partners.

b. Avoid pregnancy and breast feeding.

c. Alert his/her health care providers to the possible role of HIV infection in evaluating any nonspecific medical symptoms or signs (e.g., recognition and treatment of life-threatening opportunistic infections such as *Pneumocystis carinii* pneumonia).

d. Begin prophylactic chemotherapy with isoniazid if a tuberculin test is positive and clinically active tuberculosis is excluded.

e. Prolong treatment for active pulmonary tuberculosis to at least six months beyond a negative sputum culture.[1]

f. Avoid certain live viral or bacterial vaccines and immunosuppressive therapy, depending on the extent of clinical symptoms for AIDS.[4-6]

g. Attempt to decrease exposure to other viruses such as cytomegalovirus, Epstein-Barr virus and *Herpes simplex*-virus, in an attempt to slow the progression of HIV infection.[7-11]

A seronegative individual may also benefit from screening by:

a. Being assured that he/she is probably not infected and is therefore unlikely to transmit the virus to others.

b. Receiving personal risk reduction counseling based on specific high risk activities.

I will evaluate whether a mass screening program for HIV infection will do more good than harm, by using the seven guidelines set forth by Cadman et al. (table 1,[12] next page).

1. Has the effectiveness of an HIV screening program been demonstrated in a randomized trial?

Are there any trials in which unselected persons have been randomly allocated to be *offered* or *not offered* screening and in which those with positive screenings (ELISA tests and Western blot tests) are then encouraged to proceed to staging of the disease and to undergo counseling to identify high-risk behaviors? In such a study, the control group would *not* undergo screening and their HIV infection would be detected only when it became symptomatic, i.e., AIDS.

An effectiveness study should consider the broader outcomes of general health and well-being and should consider whether a "socially significant" difference in outcome is found between the screened and the control persons. Some outcomes which might be important in a screening program for HIV infection are:

a. Reduction in transmission of HIV in the screened group as compared to the control group.

b. Significant changes in high risk behavior associated with knowledge of serologic status.

c. A prolongation of the asymptomatic state before overt AIDS develops, accounting for the "lead time" from early diagnosis.

From Department of Epidemiology, School of Public Health, and Department of Medicine, University of North Carolina, Chapel Hill 27514. Presented as part of a panel discussion at the 15th Annual Alumni Conference of the University of North Carolina School of Public Health, Chapel Hill, April 1987.

Table 1

Seven Guidelines for Deciding Whether an HIV Community Screening Program Does More Good than Harm

	Guidelines		*Comments*
1	Has the program's effectiveness been demonstrated in a randomized trial? *If an effectiveness trial with a positive result has not been carried out, ask the following questions:*	1	No.
2	Are efficacious treatments available?	2	No proven efficacious antiviral agents to treat asymptomatic HIV infection are available.
3	Does the current burden of suffering warrant screening?	3	HIV infection is a devastating illness.
4	Is there a good screening test?	4	In the general population, the screening tests (ELISA, followed by a Western blot) might identify many persons who are false positives.
5	Does the program reach those who could benefit from it?	5	Voluntary screening programs for HIV in North Carolina have identified approximately 2% of the estimated number of seropositive persons.
6	Can the health system cope with the screening program?	6	An expanded voluntary or a mandatory screening program would stress our current public health system.
7	Will those who had a positive screening comply with subsequent advice and interventions?	7	Education and counseling do not necessarily result in appropriate changes in high-risk behavior.

Adapted from: Assessing the effectiveness of community screening programs. JAMA 1984;251:1580-5. Copyright 1984, American Medical Association.

d. Adverse psychosocial reactions to the knowledge of HIV seropositivity.

e. Reduction in the medical care cost of patients with AIDS through early detection.

No clinical trial has been done measuring the above outcomes in the general population. In the absence of data we must, therefore, examine other criteria to answer the question of whether an HIV-screening program will do more good than harm.

2. Are there efficacious treatments for asymptomatic HIV infection and/or efficacious preventive maneuvers for the transmission of HIV?

Are there behavioral modification techniques to prevent progression from asymptomatic HIV infection to overt AIDS, or to reduce transmission of the virus? Are there agents to prevent progression from asymptomatic HIV infection to overt AIDS? No randomized controlled studies exist to answer these questions. However, Fox et al. note that homosexual/bisexual males who wish to know their serologic status and are seropositive have significantly reduced their number of partners by 50% six months later.[13]

Education in the form of mass media campaigns has been a prime strategic tool for the control of the AIDS epidemic in homosexual communities even without mass HIV screening programs; McKusick, et al. in San Francisco found that men in nonmonogamous relationships and men not in relationships reported substantial reductions in high-risk sexual activity.[14]

However, Echenberg has suggested that educational campaigns may not be effective in the heterosexual community because the perceived threat of AIDS is not as great as in homosexual communities with a high prevalence.[15] Knowledge of serologic status along with personalized risk-reduction counseling may be necessary to change heterosexuals' behaviors.[15] Heterosexual couples in which one partner is seropositive are encouraged to practice safe sex, including the use of condoms; it is surprising that among such couples as many as 37.5% (12/32) may not adhere to this recommendation.[16] Thus, knowledge of a positive blood test for HIV does not necessarily lead to appropriate changes in behavior and, likewise, knowledge of high-risk behavior for AIDS does not necessarily result in alteration of that behavior.

At present there are no proven effective antiretroviral treatments to delay progression to overt AIDS. We also have no scientifically rigorous information from clinical trials to demonstrate that avoiding exposure to foreign antigens will delay progression to overt AIDS. There are some suggestive and theoretical data, however; we therefore counsel seropositive persons to try to avoid infections with cytomegalovirus, Epstein-Barr virus, and *Herpes simplex* virus.[7-11]

3. Does the current burden of suffering warrant screening?

Does the asymptomatic HIV infection substantially impair the present or future physical, social, emotional and/or intellectual function of the person and/or his family? Numerous reports have suggested significant social and emotional dysfunction associated with knowledge of HIV seropositivity even without physical disability.[17-19]

As many as 34% of persons who are HIV seropositive

Table 2

The Effect of Prevalence on the Predictive Value of HIV Antibody (ELISA) Screening (Sensitivity = .993; Specificity = .998)

	Definitive Diagnosis of HIV Infection								
HIV Test Result	*Present*	*Absent*		*Present*	*Absent*		*Present*	*Absent*	
Positive	199	2,000	2,199	1,986	1,996	3,982	19,860	1,960	21,820
Negative	1	997,800	997,801	14	996,004	996,018	140	978,040	978,180
	200	999,800	1,000,000	2,000	998,004	1,000,000	20,000	980,000	1,000,000
	Prevalence 0.02%			Prevalence 0.2%			Prevalence 2%		
	PPV = 199/2,199 = 9%			PPV = 1,986/3,982 = 50%			PPV = 19,860/21,820 = 91%		

have developed AIDS within three years.[20, 21] These figures vary based on the risk group studied and their geographic location.[20] Early diagnosis of the asymptomatic state, *if* there were effective treatments, would certainly be appropriate.

Dr. R. Meriwether, head of the communicable Disease Branch of the North Carolina Department of Human Resources, estimates that 0.02% of the general population in North Carolina is infected with HIV.[1] HIV infection is not common, but when it does occur it is a psychosocially debilitating and often progressive illness.

4. Is there a good screening test?

The test must have a high sensitivity (yielding a positive result in a high proportion of persons who actually have HIV infection) and a high specificity (yielding a negative result in a high proportion of those who do not have the infection). The ELISA screening test, an enzyme-linked immunosorbent assay which detects antibodies to HIV, has been known to have a high sensitivity and a high specificity, 99.3% and 99.8%, respectively, according to the CDC and the manufacturers.[22-26]

The second aspect of the ELISA screening test which is important is the positive predictive value. This is the probability that a patient with a positive HIV ELISA test actually is infected. For clinicians and counselors, this is the most relevant concept. A person who has a positive ELISA test will ask whether he/she truly has HIV infection. As the true prevalence of HIV infection in a population increases, the positive predictive value correspondingly increases (table 2).

In a population with a prevalence of 0.02% (the approximate prevalence in the general population in North Carolina) the positive predictive value of a repeatedly reactive ELISA test is 9% (table 2). Thus 91% of people in the general population of North Carolina with a positive ELISA will have a falsely positive test, i.e., they do not have HIV infection even though the test is positive. It is obvious that this test, even though extremely sensitive and specific, does not perform well in a population where the prevalence of HIV infection is extremely low.

When the prevalence is 0.2%, the positive predictive value rises to 50%; when the prevalence increases to 2%, which might be the prevalence in sexually transmitted disease clinics, the positive predictive value increases further to 91%. When the prevalence increases to 10% or 11%, which is the prevalence of seropositivity at alternate test sites in North Carolina, the positive predictive value increases to almost 99%.

It is obvious then that a most crucial factor in deciding whether or not the test accurately predicts true positivity will be the prevalence of HIV infection in the tested population. In a population in which the prevalence is 0.2% or less, the ELISA screening test is not very accurate.

In general, once a blood sample is repeatedly positive by the ELISA screening test, it is further analyzed by use of the Western blot.[27] The Western blot test is a research tool and does not use commercially standardized reagents. Therefore, the sensitivity and specificity have not been addressed. However, the test is felt to be, in the best of hands, more sensitive and specific that the ELISA test.[28] In table 3 (next page), the improvement in positive predictive value is evident when the Western blot method is used to confirm the positive samples detected with the ELISA. Included are two values for sensitivity and specificity of the Western blot.* By sequentially testing blood with ELISA and then with the Western blot, one can significantly improve positive predictive value.** Comparison between part B and part C in table 3 illustrates that by an increase of more than 6% in specificity, holding prevalence of the infection constant, the positive predictive value can be improved by at least 40%. Clinicians and counselors should realize that the

*These values are hypothetical and *should not* be interpreted as the sensitivity and specificity of the Western blot test. However, these are based on communication with Dr. Tsang and reports in the literature.[28-31]

**The Western blot test is assumed for the calculations in table 3 to be an independent test from the ELISA. Since this may not be totally correct, the positive predictive value for the Western blot testing in table 3 might be slightly higher than the true value.[32]

Table 3

A. ELISA Test (Sensitivity = .993; Specificity = .998; 0.02% Prevalence HIV in Population)

	Definitive Diagnosis of HIV Infection			
HIV Test Result	*Present*	*Absent*		
Positive	199	2,000	2,199	
Negative	1	997,800	997,801	PPV = 9%
	200	999,800	1,000,000	

B. Western Blot (test the positives from A; Sensitivity = .99 and Specificity = .93)

	Definitive Diagnosis of HIV Infection			
HIV Test Result	*Present*	*Absent*		
Positive	197	140	337	
Negative	2	1,860	1,862	PPV = 58%
	199	2,000	2,199	

C. Western Blot (test the positives from A; Sensitivity = .99 and Specificity = .998)

	Definitive Diagnosis of HIV Infection			
HIV Test Result	*Present*	*Absent*		
Positive	197	4	201	
Negative	2	1,996	1,998	PPV = 98%
	199	2,000	2,199	

majority of people, even in a low prevalence population, who are ELISA positive *and* Western blot positive, are truly infected with HIV; however, a certain proportion of seropositive persons will still be false positives.

5. Does the program reach a high proportion of persons for whom it was intended?

Screening programs aimed at the general population are particularly susceptible to the "inverse care law," where those in greatest need tend to be the least likely to be screened.

Table 4

Costs of MASS Screening

290,000	persons in Wake County (1980) between 20 and 65 years
72,500	1/4 of population is screened
36,250	hours of counseling required (1/2 hr of counseling per client)
$507,500	Counseling fees ($14/hr PHN salary) (equivalent to 17 PHN slots)
$1,120,300	Lab costs [using $15 per ELISA and $28 per Western blot and performing 74,500 ELISA (includes 2,000 repeats) and 100 Western blot confirmatory tests]
$1,627,800	TOTAL COST to detect about 15 seropositive persons, if prevalence is 0.02%
$108,520	DETECTION COST PER SEROPOSITIVE PERSON. IF ONLY 9 OF THESE PERSONS ARE TRUE POSITIVES, THE COST PER TRUE CASE IS INCREASED TO:
$180,867	

Alternate test site programs have been set up to anonymously test persons who perceive themselves to be at high risk for AIDS. One hundred ninety-seven cases of AIDS have been diagnosed in North Carolina.[1] If we estimate that there are 50 seropositive people per AIDS case, 9,850 seropositive people currently live in North Carolina. Since alternate test site screening has begun in 1985, approximately 2,000 people have been tested.[1] Of these 2,000 who have been tested, approximately 10% have been seropositive.[2] Therefore, only about 2% of the estimated number of seropositive people in North Carolina have been tested to date. It is likely that if a voluntary mass screening program for HIV infection were instituted, very few people who needed to be tested would actually volunteer for testing.

6. Can the health system cope with the screening program?

All persons with positive HIV tests (ELISA and Western blot) must have further diagnostic evaluations to determine the stage of the infection and have followup evaluations periodically.

Table 4 demonstrates the possible cost of mass screening. By the 1980 census, there were approximately 290,000 persons in Wake County between the ages of 20 and 65. If one quarter of this population came forward for screening during the first year, 72,500 people would be screened. If one half hour of counseling is required per client, 36,250 hours of counseling would result with a cost of approximately $507,500. This is equivalent to 17 full-time public health

nursing slots which would need to be added to the current Wake County Health Department staff. Lab costs, using $15 per ELISA and $28 per Western blot, would result in approximately $1,120,300, for a total cost of $1,627,800.† This is the total cost to detect about 15 seropositive persons if the true prevalence is .002% in the population. This results in a detection cost of $108,520 per seropositive person. If the specificity of the Western blot confirmatory test is extremely high, most of these people will be true positives. However, if only nine of these 15 are true positives (based on a 93% specificity of the Western blot) the cost per true case is increased to $180,867. This is obviously a significant amount of money and expansion in personnel to detect a disorder for which there is no effective therapy.

If an effective therapy for asymptomatic HIV infections is discovered, the above estimated cost of detection may well be worth it. Hardy, et al., in evaluating 10,000 AIDS cases, concluded that $630,000 per person is spent in hospital costs and in income lost due to disability.[33] The cost of AIDS is great, as is the cost of community screening. Society must determine at what level detection costs outweigh the costs of treating AIDS cases.

7. Will those with positive HIV antibody tests comply with control measures?

In general, screening programs typically are directed toward the detection of presymptomatic chronic conditions. Persons with chronic conditions sometimes demonstrate poor compliance with recommended therapies such as weight reduction and hypertension control.[34] Currently we have no proven antiretroviral treatment to prevent progression from asymptomatic HIV infection to AIDS. Furthermore, alteration in high risk behavior might reduce the spread of HIV, but this change must be maintained for the person's entire lifespan. We do not have adequate information about the ability of persons to change their sexual behavior over periods longer than two years.[13,14] Heterosexual couples in which one spouse is HIV seropositive have not uniformly used condoms or practiced safe sex.[16] Infected women who have delivered children who subsequently developed AIDS have not uniformly refrained from getting pregnant again.[35] Thus we do not know how a mass screening program for HIV infection will affect those people identified as seropositive.

Summary

AIDS is a devastating disease. Many persons infected with HIV will progress to overt AIDS. A screening program aimed at the general population would identify varying numbers of persons who are false positive, depending on the sensitivity and specificity of the confirmatory Western blot test and the prevalence of HIV infection in the population. The cost of such a screening program would be extremely high, considering that no proven treatment is available for asymptomatic HIV infections. A mass screening program is frought with problems and would not do more good than harm.

If high risk populations are selected, where the prevalence of HIV infection is above 1% or 2%, the accuracy of the screening tests is improved and the cost of detecting a seropositive person decreases. Ethical issues and implementation concerns then become important as legislators and some public health personnel consider mandatory targeted screening for selected groups such as prostitutes, intravenous drug users, prisoners, or high risk women who might become pregnant.[36] ■

†These costs are based on estimates from the Virology laboratory, North Carolina Memorial Hospital and may not be representative of other laboratories.

References

1 Meriwether RA, Head, Communicable Disease Branch, Dovosopm of Health Services, North Carolina Department of Human Resources, Personal communication, March 25, 1987.

2 Alvig OH. Mandatory screening for HIV antibody. JAMA 1987;257:625.

3 Goedert JJ. What is safe sex? Suttested standards linked to testing for human immunodeficiency virus. N Engl J Med 1987; 316:1339-42.

4 Francis DP, Chin J. The prevention of acquired immunodeficiency syndrome in the United States: an objective strategy for medicine, public health, business and the community. JAMA 1987;257:1357-66.

5 Hopkins DC. Prevention of HIV infection. JAMA 1987;257:1046.

6. CDC. Immunization of children infected with human-T-lymphotropic virus type IlI/lymphadenopathy-associated virus. MMWR 1986; 35:595-8, 603-6.

7 Barre-Sinoussi F, Chermann JC, Rey F, et al. Isolation of a T-lymphotropic retrovirus from a patient at risk of acquired immune deficiency syndrome (AIDS). Science 1983;220:868-71

8 Gendelman HE, Phelps W, Feigenbaum L, et al. Transactivation of the human immunodeficiency virus long terminal repeat sequence by DNA viruses. Proc Nat'l Acad Sci USA 1986;83:9759-63.

9 Mosca JD, Bednarik DP, Raj NBK, et al. *Herpes simplex* virus type-1 can reactivate transcription of latent human immunodeficiency virus. Nature 1987;325:67-70.

10 Polk BF, Fox R, Brookmeyer R, et al. Predictors of the acquired immunodeficiency syndrome developing in a cohort of seropositive homosexual men. N Engl J Med 1987;316:61-6.

11 Carney WP, Rubin RH, Hoffman RA, et al. Analysis of T lymphocyte subsets in cytomegalovirus mononucleosis. J Immunol 1981;126:2114-6.

12 Cadman D, Chambers L, Feldman W, Sackett D. Assessing the effectiveness of community screening programs. JAMA 1984;251:1580-5.

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13 Fox R, Odaka N, Polk BF. Effect of learning HTLV-III/LAV antibody status on subsequent sexual activity. Communication 115, II International conference on AIDS, Paris, France, June 1986.

14 Mckusick L, Horstman W, Coates TJ. AIDS and sexual behavior reported by gay men in San Francisco. Am J Pub Health 1985;75:493-6.

15 Echenberg DF. A new strategy to prevent the spread of AIDS among heterosexuals. JAMA 1985;254:2129-30.

16 Fischl MA, Dichinson GM, Scott GB, et al. Evaluation of heterosexual partners, children, and household contacts of adults with AIDS. JAMA 1987;257:640-4.

17 Richards T. Don't tell me on a Friday. Br Med J 1986;292:943.

18 Altman LK. Privacy called vital to AIDS screening. New York Times, March 1, 1987.

19 Coates TL, Stall R, Mandel JS, et al. AIDS: A psychosocial research agenda. Ann Beh Med 1987;9:21-8.

20 Goedert IJ, Biggar RJ, Weiss SH, et al. Three-year incidence of AIDS in five cohorts of HTLV-III-infected risk group members. Science 1986;231:992-5.

21 Goedert JJ, Biggar RJ, Melbyem, et al. Effect of T_4 count and cofactors on the incidence of AIDS in homosexual men infected with human immunodeficiency virus. JAMA 1987;257:331-4.

22 Ward JW, Grindon AJ, Feorino PM et al. Laboratory and epidemiologic evaluation of an enzyme immuno-assay for antibodies to HTLV-III. JAMA 1986;256:357-61.

23 Weiss SH, Goedert JJ, Sarngadharan MG, et al. Screening test for HTLV-III (AIDS agent) antibodies. JAMA 1985;253:221-5.

24 Council on Scientific Affairs. Status report on the acquired immunodeficiency syndrome: Human T-cell lymphotropic virus type III testing. JAMA 1985;2541342-5.

25 Sivak SL, Wormser GP. Predictive value of a screening test for antibodies to HTLV-III. Am J Clin Path 1986;85:700-3.

26 Petricciani JC. Licensed tests for antibody to human T-lymphotropic virus type III: sensitivity and specificity. Ann Intern Med 1985;103:726-9.

27. Barin F, McLane MF, Allan JS, et al. Virus envelope protein of HTLV-III represents major target antigen for antibodies in AIDS patients. Science 1985;228:1094-6.

28 Tsang V. Division of Parasitic Diseases, Centers for Disease Control, personal communication, April 22,1987.

29 Burke DS, Redfield RR. False-positive Western blot tests for antibodies to HTLV-III. JAMA 1986;256:347.

30 Saag MS, Britz J. Asymptomatic blood donor with a false positive HRLV-III Western blot. N Engl J Med 1986;314:118.

31 Biberfeld G, Bredberg-Raden U, Bottiger B, et al. Blood donor sera with false-positive Western blot reactions to human immunodeficiency virus. Lancet 1986_:289-90.

32 Fletcher RH, Fletcher SW, Wagner EH. Clinical Epidemiology: The Essentials. Baltimore: Williams and Wilkins, 1982, pp.64-7.

33 Hardy AM, Rauch K, Echenberg D, et al. The economic impact of the first 10,000 cases of acquired immunodeficiency syndrome in the United States. JAMA 1986;255:209-11.

34 Haynes RB. Determinants of compliance, in Haynes RB, Taylor DW, SAckett DL (eds). Compliance in health care. Baltimore: Johns Hopkins University Press, 1979, p.49.

35 Scott GB, Fischl MA, et al. Mothers of infants with the acquired immunodeficiency syndrome (AIDS): evidence for both symptomatic and asymptomatic carriers. JAMA 1985;253:363-6.

36 CDC. Additional recommendations to reduce sexual and drug abuse-related transmission of human T-lymphotropic virus type III/lymphadenopathy-associated virus. MMWR 1986;35:152-5.

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MICROBIOLOGY The bactericidal activity of ceftriaxone results from inhibition of cell wall synthesis. Ceftriaxone has a high degree of stability in the presence of beta-lactamases, both penicillinases and cephalosporinases, of gram-negative and gram-positive bacteria. Ceftriaxone is usually active against the following microorganisms *in vitro* and in clinical infections (see Indications and Usage):

GRAM-NEGATIVE AEROBES: *Enterobacter aerogenes, Enterobacter cloacae, Escherichia coli, Haemophilus influenzae* (including ampicillin-resistant strains), *H. parainfluenzae, Klebsiella* species (including *K. pneumoniae*), *Neisseria gonorrhoeae* (including penicillinase and nonpenicillinase producing strains), *Neisseria meningitidis, Proteus mirabilis, Proteus vulgaris, Morganella morganii* and *Serratia marcescens*.

Note: Many strains of the above organisms that are multiply resistant to other antibiotics, e.g., penicillins, cephalosporins and aminoglycosides, are susceptible to ceftriaxone sodium.

Ceftriaxone is also active against many strains of *Pseudomonas aeruginosa*.

GRAM-POSITIVE AEROBES: *Staphylococcus aureus* (including penicillinase-producing strains) and *Staphylococcus epidermidis* (Note: methicillin-resistant staphylococci are resistant to cephalosporins, including ceftriaxone), *Streptococcus pyogenes* (Group A beta-hemolytic streptococci), *Streptococcus agalactiae* (Group B streptococci) and *Streptococcus pneumoniae* (Note: Most strains of enterococci, *Streptococcus faecalis* and Group D streptococci are resistant.)

Ceftriaxone also demonstrates *in vitro* activity against the following microorganisms, although the clinical significance is unknown:

GRAM-NEGATIVE AEROBES: *Citrobacter freundii, Citrobacter diversus, Providencia* species (including *Providencia rettgeri*), *Salmonella* species (including *S. typhi*), *Shigella* species and *Acinetobacter calcoaceticus*.

ANAEROBES: *Bacteroides* species, *Clostridium* species (Note: most strains of *C. difficile* are resistant)

SUSCEPTIBILITY TESTING: Standard susceptibility disk method: Quantitative methods that require measurement of zone diameters give the most precise estimate of antibiotic susceptibility. One such procedure (Bauer AW, Kirby WMM, Sherris JC, Turck M: Antibiotic Susceptibility Testing by a Standardized Single Disk Method, *Am J Clin Pathol 45*: 493-496, 1966, Standardized Disk Susceptibility Test, *Federal Register 39*: 19182-19184, 1974, National Committee for Clinical Laboratory Standards, Approved Standard: ASM-2, Performance Standards for Antimicrobial Disk Susceptibility Tests, July 1975.) has been recommended for use with disks to test susceptibility to ceftriaxone.

Laboratory results of the standardized single disk susceptibility test using a 30-mcg ceftriaxone disk should be interpreted according to the following three criteria:

1. Susceptible organisms produce zones of 18 mm or greater, indicating that the tested organism is likely to respond to therapy.
2. Organisms that produce zones of 14 to 17 mm are expected to be susceptible if a high dosage (not to exceed 4 gm per day) is used or if the infection is confined to tissues and fluids (e.g., urine), in which high antibiotic levels are attained.
3. Resistant organisms produce zones of 13 mm or less, indicating that other therapy should be selected.

Organisms should be tested with the ceftriaxone disk, since ceftriaxone has been shown by *in vitro* tests to be active against certain strains found resistant to cephalosporin class disks.

Organisms having zones of less than 18 mm around the cephalothin disk are not necessarily of intermediate susceptibility or resistant to ceftriaxone.

Standardized procedures require use of control organisms. The 30-mcg ceftriaxone disk should give zone diameters between 29 and 35 mm, 22 and 28 mm and 17 and 23 mm for the reference strains *E. coli* ATCC 25922, *S. aureus* ATCC 25923 and *P. aeruginosa* ATCC 27853, respectively.

DILUTION TECHNIQUES: Based on the pharmacokinetic profile of ceftriaxone, a bacterial isolate may be considered susceptible if the MIC value for ceftriaxone is not more than 16 mcg/ml. Organisms are considered resistant to ceftriaxone if the MIC is equal to or greater than 64 mcg/ml. Organisms having an MIC value of less than 64 mcg/ml, but greater than 16 mcg/ml, are expected to be susceptible if a high dosage (not to exceed 4 gm per day) is used or if the infection is confined to tissues and fluids (e.g., urine), in which high antibiotic levels are attained.

E. coli ATCC 25922, *S. aureus* ATCC 25923 and *P. aeruginosa* ATCC 27853 are also the recommended reference strains for controlling ceftriaxone dilution tests. Greater than 95% of MICs for the *E. coli* strain should fall within the range of 0.016 to 0.5 mcg/ml. The range for the *S. aureus* strain should be 1 to 2 mcg/ml, while for the *P. aeruginosa* strain the range should be 8 to 64 mcg/ml.

INDICATIONS AND USAGE: Rocephin is indicated for the treatment of the following infections when caused by susceptible organisms:

LOWER RESPIRATORY TRACT INFECTIONS caused by *Strep. pneumoniae, Streptococcus* species (excluding enterococci), *Staph. aureus, H. influenzae, H. parainfluenzae, Klebsiella* species (including *K. pneumoniae*), *E. coli, E. aerogenes, Proteus mirabilis* and *Serratia marcescens*.

SKIN AND SKIN STRUCTURE INFECTIONS caused by *Staph. aureus, Staph. epidermidis, Streptococcus* species (excluding enterococci), *E. cloacae, Klebsiella* species (including *K. pneumoniae*), *Proteus mirabilis* and *Pseudomonas aeruginosa*.

URINARY TRACT INFECTIONS (complicated and uncomplicated) caused by *E. coli, Proteus mirabilis, Proteus vulgaris, M. morganii* and *Klebsiella* species (including *K. pneumoniae*).

UNCOMPLICATED GONORRHEA (cervical/urethral and rectal) caused by *Neisseria gonorrhoeae*, including both penicillinase and nonpenicillinase producing strains.

PELVIC INFLAMMATORY DISEASE caused by *N. gonorrhoeae*.

BACTERIAL SEPTICEMIA caused by *Staph. aureus, Strep. pneumoniae, E. coli, H. influenzae* and *K. pneumoniae*.

BONE AND JOINT INFECTIONS caused by *Staph. aureus, Strep. pneumoniae, Streptococcus* species (excluding enterococci), *E. coli, P. mirabilis, K. pneumoniae* and *Enterobacter* species.

INTRA-ABDOMINAL INFECTIONS caused by *E. coli* and *K. pneumoniae*.

MENINGITIS caused by *H. influenzae, N. meningitidis* and *Strep. pneumoniae*. Ceftriaxone has also been used successfully in a limited number of cases of meningitis and shunt infections caused by *Staph. epidermidis* and *E. coli*.

PROPHYLAXIS: The administration of a single dose of ceftriaxone preoperatively may reduce the incidence of postoperative infections in patients undergoing coronary artery bypass surgery.

Although ceftriaxone has been shown to have been as effective as cefazolin in the prevention of infection following coronary artery bypass surgery, no placebo-controlled trials have been conducted to evaluate any cephalosporin antibiotic in the prevention of infection following coronary artery bypass surgery.

SUSCEPTIBILITY TESTING: Before instituting treatment with Rocephin, appropriate specimens should be obtained for isolation of the causative organism and for determination of its susceptibility to the drug. Therapy may be instituted prior to obtaining results of susceptibility testing.

CONTRAINDICATIONS: Rocephin is contraindicated in patients with known allergy to the cephalosporin class of antibiotics.

WARNINGS: BEFORE THERAPY WITH ROCEPHIN IS INSTITUTED, CAREFUL INQUIRY SHOULD BE MADE TO DETERMINE WHETHER THE PATIENT HAS HAD PREVIOUS HYPERSENSITIVITY REACTIONS TO CEPHALOSPORINS, PENICILLINS OR OTHER DRUGS. THIS PRODUCT SHOULD BE GIVEN CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. ANTIBIOTICS SHOULD BE ADMINISTERED WITH CAUTION TO ANY PATIENT WHO HAS DEMONSTRATED SOME FORM OF ALLERGY, PARTICULARLY TO DRUGS. SERIOUS ACUTE HYPERSENSITIVITY REACTIONS MAY REQUIRE THE USE OF SUBCUTANEOUS EPINEPHRINE AND OTHER EMERGENCY MEASURES.

Pseudomembranous colitis has been reported with the use of cephalosporins (and other broad-spectrum antibiotics), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with antibiotic use.

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Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis. Cholestyramine and colestipol resins have been shown to bind to the toxin *in vitro*.

Mild cases of colitis respond to drug discontinuance alone. Moderate to severe cases should be managed with fluid, electrolyte and protein supplementation as indicated.

When the colitis is not relieved by drug discontinuance or when it is severe, oral vancomycin is the treatment of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should also be considered.

PRECAUTIONS: *GENERAL*: Although transient elevations of BUN and serum creatinine have been observed, at the recommended dosages, the nephrotoxic potential of Rocephin is similar to that of other cephalosporins.

Ceftriaxone is excreted via both biliary and renal excretion (see Clinical Pharmacology). Therefore, patients with renal failure normally require no adjustment in dosage when usual doses of Rocephin are administered, but concentrations of drug in the serum should be monitored periodically if evidence of accumulation exists, dosage should be decreased accordingly.

Dosage adjustments should not be necessary in patients with hepatic dysfunction, however, in patients with both hepatic dysfunction and significant renal disease, Rocephin dosage should not exceed 2 gm daily without close monitoring of serum concentrations.

Alterations in prothrombin times have occurred rarely in patients treated with Rocephin. Patients with impaired vitamin K synthesis or low vitamin K stores (e.g., chronic hepatic disease and malnutrition) may require monitoring of prothrombin time during Rocephin treatment. Vitamin K administration (10 mg weekly) may be necessary if the prothrombin time is prolonged before or during therapy.

Prolonged use of Rocephin may result in overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Rocephin should be prescribed with caution in individuals with a history of gastrointestinal disease, especially colitis.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY: Carcinogenesis: Considering the maximum duration of treatment and the class of the compound, carcinogenicity studies with ceftriaxone in animals have not been performed. The maximum duration of animal toxicity studies was six months.

Mutagenesis: Genetic toxicology tests included the Ames test, a micronucleus test and a test for chromosomal aberrations in human lymphocytes cultured *in vitro* with ceftriaxone. Ceftriaxone showed no potential for mutagenic activity in these studies.

Impairment of Fertility: Ceftriaxone produced no impairment of fertility when given intravenously to rats at daily doses up to 586 mg/kg/day, approximately 20 times the recommended clinical dose of 2 gm/day.

PREGNANCY: Teratogenic Effects: Pregnancy Category B. Reproductive studies have been performed in mice and rats at doses up to 20 times the usual human dose and have no evidence of embryotoxicity, fetotoxicity or teratogenicity. In primates, no embryotoxicity or teratogenicity was demonstrated at a dose approximately three times the human dose.

There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproductive studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nonteratogenic Effects: In rats, in the Segment I (fertility and general reproduction) and Segment III (perinatal and postnatal) studies with intravenously administered ceftriaxone, no adverse effects were noted on various reproductive parameters during gestation and lactation, including postnatal growth, functional behavior and reproductive ability of the offspring, at doses of 586 mg/kg/day or less.

NURSING MOTHERS: Low concentrations of ceftriaxone are excreted in human milk. Caution should be exercised when Rocephin is administered to a nursing woman.

PEDIATRIC USE: Safety and effectiveness of Rocephin in neonates, infants and children have been established for the dosages described in the Dosage and Administration section.

ADVERSE REACTIONS: Rocephin is generally well tolerated. In clinical trials, the following adverse reactions, which were considered to be related to Rocephin therapy or of uncertain etiology, were observed:

LOCAL REACTIONS—pain, induration or tenderness at the site of injection (1%). Less frequently reported (less than 1%) was phlebitis after I.V. administration.

HYPERSENSITIVITY—rash (1.7%). Less frequently reported (less than 1%) were pruritus, fever or chills.

HEMATOLOGIC—eosinophilia (6%), thrombocytosis (5.1%) and leukopenia (2.1%). Less frequently reported (less than 1%) were anemia, neutropenia, lymphopenia, thrombocytopenia and prolongation of the prothrombin time.

GASTROINTESTINAL—diarrhea (2.7%). Less frequently reported (less than 1%) were nausea or vomiting, and dysgeusia.

HEPATIC—elevations of SGOT (3.1%) or SGPT (3.3%). Less frequently reported (less than 1%) were elevations of alkaline phosphatase and bilirubin.

RENAL—elevations of the BUN (1.2%). Less frequently reported (less than 1%) were elevations of creatinine and the presence of casts in the urine.

CENTRAL NERVOUS SYSTEM—headache or dizziness were reported occasionally (less than 1%).

GENITOURINARY—moniliasis or vaginitis were reported occasionally (less than 1%).

MISCELLANEOUS—diaphoresis and flushing were reported occasionally (less than 1%).

Other rarely observed adverse reactions (less than 0.1%) include leukocytosis, lymphocytosis, monocytosis, basophilia, a decrease in the prothrombin time, jaundice, glycosuria, hematuria, bronchospasm, serum sickness, abdominal pain, colitis, flatulence, dyspepsia, palpitations and epistaxis.

DOSAGE AND ADMINISTRATION: Rocephin may be administered intravenously or intramuscularly. The usual adult daily dose is 1 to 2 gm given once a day (or in equally divided doses twice a day) depending on the type and severity of the infection. The total daily dose should not exceed 4 grams.

For the treatment of serious miscellaneous infections in children, other than meningitis, the recommended total daily dose is 50 to 75 mg/kg (not to exceed 2 grams), given in divided doses every 12 hours. Generally, Rocephin therapy should be continued for at least two days after the signs and symptoms of infection have disappeared. The usual duration is 4 to 14 days; in complicated infections longer therapy may be required.

In the treatment of meningitis, a daily dose of 100 mg/kg (not to exceed 4 grams), given in divided doses every 12 hours, should be administered with or without a loading dose of 75 mg/kg.

For the treatment of uncomplicated gonococcal infections, a single intramuscular dose of 250 mg is recommended.

For preoperative use (surgical prophylaxis), a single dose of 1 gm administered ½ to 2 hours before surgery is recommended.

When treating infections caused by *Streptococcus pyogenes*, therapy should be continued for at least ten days.

No dosage adjustment is necessary for patients with impairment of renal or hepatic function; however, blood levels should be monitored in patients with severe renal impairment (e.g., dialysis patients) and in patients with both renal and hepatic dysfunctions.

HOW SUPPLIED: Rocephin (ceftriaxone sodium/Roche) is supplied as a sterile crystalline powder in glass vials and piggyback bottles. The following packages are available:

Vials containing 250 mg equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1962-01).
Vials containing 500 mg equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1963-01).
Vials containing 1 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1964-01).
Piggyback bottles containing 1 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1964-03).
Vials containing 2 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1965-01).
Piggyback bottles containing 2 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1965-03).
Bulk pharmacy containers, containing 10 gm equivalent of ceftriaxone. Boxes of 1 (NDC 0004-1971-01).
NOT FOR DIRECT ADMINISTRATION.

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

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References:

1. Data on file, Hoffmann-La Roche Inc.
2. Patel IH, Kaplan SA: *Am J Med* 77:17-25, Oct 19, 1984.
3. Richards DM, *et al*: *Drugs 27*:469-527, 1984.
4. Cleeland R, Squires E: *Am J Med* 77:3-11, Oct 19, 1984.
5. Tanner DJ, Nazarian MO: *Am J Med* 77:104-111, Oct 19, 1984.

AIDS

Prevention and Control in the Laboratory and Healthcare Setting

Jerry J. Tulis, Ph.D.

Acquired immunodeficiency syndrome (AIDS) is a condition resulting from infection with the human immunodeficiency virus (HIV), formerly recognized as human T lymphotropic virus type III/lymphadenopathy-associated virus (HTLV-III/LAV). The virus belongs to a class of etiologie agents known as retroviruses, possessing RNA rather than DNA as the core genetic material. HIV attacks the T-lymphocyte, specifically the helper lymphocyte, thereby leading to a depletion of these cells and a progressive immunodeficiency state that renders the host highly susceptible to infection by opportunistic microorganisms and neoplastic disease.

Since the recognition of AIDS as a clinical entity in 1979, more than 30,000 cases have been diagnosed using criteria established by the Centers for Disease Control (CDC). Because of the latent period associated with AIDS, which may extend for many years, the clinical cases we are seeing today probably were exposed five or more years ago. In addition, by virtue of positive antibody screening procedures, about 2,000,000 individuals are believed to have been exposed. These numbers are expected to increase dramatically by the 1990s.

Risk groups have been identified: male homosexuals, parenteral drug abusers, hemophiliacs and other transfused patients, heterosexual partners of infected individuals, and children born to infected mothers. With the screening of blood, the number of people who receive infected blood and cryoprecipitates should decrease dramatically.

As the disease has begun to approach epidemic proportions, even greater interest has been stimulated in the United States and elsewhere toward the development and implementation of preventive measures and control practices. Extensive research is underway on the development of chemotherapeutic agents (e.g., AZT, Burroughs Wellcome Company, Research Triangle Park) and prophylactic vaccines, several of which are close to clinical trials. The massive medical program being undertaken in this country to stem this scourge is unprecedented in the annals of medical history. Concurrently, much interest has been focused on educational programs aimed at providing necessary information to young people and adults, high-risk groups, healthcare personnel, and the general public.

From the School of Public Health, University of North Carolina, Chapel Hill 27514. Presented as part of a panel discussion at the 15th Annual Alumni Conference of the University of North Carolina School of Public Health, Chapel Hill, April 1987.

Transmission of the Virus

Transmission of HIV leading to infection is believed to occur primarily through the blood and semen, although the etiologic agent has been recovered from most body fluids, including saliva, tears, urine, cerebrospinal fluid, and breastmilk. Considering the classic routes of most viral infection — namely, aerogenic, by ingestion, contact, percutaneous penetration, and vectors — HIV does not appear to pose a hazard except through intimate contact (sexual relations) and mucosal and skin penetration. Thus, in a laboratory or healthcare setting, percutaneous or parenteral inoculation through accidental cuts and needlesticks, and exposure by contact of abrasions, cuts, or mucosal surfaces could be considered as potential routes of entry of HIV. Clearly, the accidental needlestick represents the most significant occupational hazard for transmission of HIV to healthcare workers. Exposure through the inhalation of aerosolized HIV has probably occurred, as documented at several reagent laboratories in 1985, but no evidence of infection was detected.

The CDC surveillance program has included 1,097 healthcare workers who had experienced parenteral or mucous-membrane exposure to blood or other body fluids of AIDS patients. Needlesticks and cuts comprise 969 (89%) of these exposures; one seroconversion (0.3%) was recorded from the 298 workers where paired sera were tested for HIV antibody. Other surveillance programs at the National Institutes of Health (NIH), involving 332 workers with percutaneous or mucous-membrane exposure, and the University of California, involving 63 workers with similar exposures, have not yielded seropositive individuals. In ad-

dition to the above documented seroconversion, there have been five other healthcare workers without apparent risk factors for AIDS who have been infected with HIV. Of the six infected workers previously reported, four have been associated with needlestick injuries and two with extensive contact with blood or body fluids of AIDS patients. More recently (May 1987), three cases of apparent occupational infection with HIV have been reported by the CDC; these workers were exposed to HIV through skin or mucous-membrane contact with blood from AIDS patients. The exact route of entry of HIV has not been identified, although natural barriers were compromised by the presence of acne and/or dermatitis in two of the workers.

It is important to recognize that of the five reported cases of occupational infection with HIV through skin or mucous-membrane exposure, four of the healthcare workers did not use gloves or other barrier precautions. Although the magnitude of the risk to healthcare workers of skin and mucous-membrane exposure to HIV-contaminated blood is unknown, it is recognized that these exposures occur much more frequently than do accidental needlesticks. Thus, the risk of transmission of HIV from skin or mucous-membrane exposure to blood or other body fluids of AIDS patients is believed extremely rare, and considerably less of an occupational hazard than the accidental needlestick, which surveillance data indicate rarely causes HIV infections in healthcare workers.

There is no documentation of infection with HIV by ingestion, inhalation, casual contact, or vectors. Nevertheless, it is imperative that continued vigilance be exercised when handling blood specimens, tissue samples, or tissue cultures potentially containing HIV. For many years, the etiologic agents of Rocky Mountain spotted fever, rabies, and smallpox were not believed transmissible by aerogenic exposure; it is sobering now to recognize that fallacy, since all three diseases have resulted from occupational or nosocomial exposure through contaminated aerosols.

Prevention

In establishing prudent safety practices for handling HIV in an occupational setting, we have relied extensively on our past experiences over many years in the handling of hepatitis B virus (HBV), the causative agent of serum hepatitis. Although the disease associated with clinical hepatitis is considerably less serious than AIDS, especially regarding mortality, the use if HBV as a model for HIV has many merits and provides us with a conservative preventive program.

Data on the occupational infection of laboratorians and healthcare workers indicate that the risk of acquiring HBV following accidental exposure may be as high as 30-40%; information to date on HIV infection following similar exposure is indicative of a significantly lower risk, much lower than 1%. Considering that patients with acute hepatitis may possess 100,000,000 to 1,000,000,000 virus particles per milliliter of blood and those acutely ill with AIDS only 10 to 100 virus particles per similar volume, and often fewer, one can readily understand the relative risks, even without knowledge of infectious dose.

Thus, the use of the HBV model and infectivity scenario provides us with the worst-case situation, and safety precautions and practices in use for many years in laboratories and hospitals should be ample to protect workers from occupational HIV infection. Not only is HBV more infective, but data indicate that HBV is a hardier virus in its ability to survive exposure to environmental stress or chemical disinfection. Research studies on viral disinfection have demonstrated that HIV is destroyed by alcohols, hypochlorites, hydrogen peroxide, phenolics, and formaldehyde, all readily available and extensively used laboratory disinfectants, at concentrations below those normally formulated for use. For example, with the use of sodium hypochlorite — ordinary household bleach — at a concentration of 5,000 ppm available chlorine (a tenfold dilution of household bleach), the expected log reduction calculated by using linear regression analysis is more than 1,400 logs! In addition, the more fragile ultrastructure of HIV is more amenable to disinfectant action and destruction than the more hardy HBV. The CDC recommendation for destruction of HIV in the laboratory or healthcare setting stipulates the use of the 10% solution of fresh household bleach.

The CDC/NIH guidelines entitled "Biosafety in Microbiological and Biomedical Laboratories" recommend that safety practices used for HBV should be applied to work with HIV. Consequently, biosafety level 2 is indicated for HIV based on lack of documentation that this virus is transmitted by the aerogenic route. The guidelines state that "hazards to personnel working with these agents may include autoinoculation, ingestion, and skin or mucous membrane exposure to infectious materials." In contrast, biosafety level 3 is associated with "agents where the potential for infection by aerosols is real." It seems prudent, in view of the fatal nature of the disease AIDS, that some of the safety practices employed at level 3, such as the use of biological safety cabinets, should be applied to work with HIV.

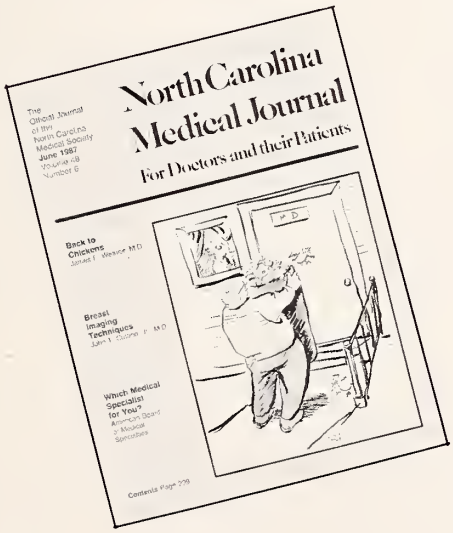
All blood and blood products being processed must be considered as potentially infective and should be handled with extreme caution. Gloves should be worn to protect the clinician or laboratorian. Hand washing is imperative; it becomes the first line of defense against the spread of virus or possible infection. The syringe and needle can become vehicles of transmission; recapping of needles, destruction of needles, or any other manipulation should be avoided. Receptacles for discard should be readily available for containment of needles and syringes. Mouth pipetting is prohibited under any circumstance; numerous devices are available as pipetting aids. Smoking, eating, drinking, and applying cosmetics are strictly prohibited practices in laboratory settings.

Finally, when applying our knowledge and experience of

HBV to HIV, an important and very significant difference becomes apparent: we have a very effective prophylactic vaccine available to protect healthcare workers against hepatitis B infection. To date, although under extensive research, no vaccine is available to protect individuals against AIDS. ■

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A Tasteless Proposal

Caffeine Overdose

Ronald B. Mack, M.D.

An affluent society, such as ours, demands from its citizens financial contributions to organizations who attempt to find causes and cures for diseases. One disease condition, that I know of, has no such fund-raising organization, i.e. no telethons or mother's march or walkathon or mail or phone solicitation. The disease: SRT, the Scourge of the Rebellious Teenager. You will have to admit that these young people cause many cases of gray hair or no hair (from baldness due to anxiety or trichotillomania), coronary insufficiency, insomnia, peptic ulcers, onychophagia, and marital difficulties, just to name a few of the complications seen in parents and grandparents. There has never been a good way to solve this problem which has plagued us since man began to replicate himself (herself). I may have found a solution to this problem and Jonathan Swift gave me the idea (more about him later — let us save him for dessert).

Some of the ways that today's adolescents attempt to question and overturn authority is to adopt a language of their own, listen to music that most civilized adults cannot abide, dress in weird clothes, wear their hair in styles that in some periods of history would have been considered demonic and would have required burning at the stake, and, of course, indulge in practices that no parent would find rational.

One such behavior involves the remarkable increase in suicide attempts by adolescents, often using whatever drugs are already in the house or are easy to obtain from friends or on the street or even over the counter. We recently had a teenager enter our emergency room after transfer from another hospital, and he died less than 90 minutes later. Certainly a tragic end to a young life. The toxicology report revealed an abnormal level of caffeine in his blood.

If you were to ask me what is the liquid substance that keeps our country going and makes it a major force in the world, I would not say water, or blood or oil; I would say caffeine-containing liquids — coffee, tea, and soft drinks. One out of three Americans consumes an average of 200 mg of caffeine per day, in some form or another. The average American can't seem to get together in the morning without a caffeine fix. For a fact, many contracts have a mandated coffee-break written into them. Just think of it, for most people it is a pleasure that is not illegal or immoral or fattening. At one of our nurses' stations is the following sign: "I no longer smoke. I use no salt. I haven't had an egg in years, and I hardly drink booze no more . . . I am, I swear, nearly perfect, but God — are you listening, God? — I need my coffee."

There are legends that suggest that coffee was discovered in the Ninth Century AD by Ethiopian wanderers,[1] who noticed that the cattle with whom they traveled became more active after eating coffee beans from the trees bearing this substance. These nomads decided to find out for themselves if indeed these gray-green odorless seeds could turn them on as well, and sure enough they did. Soon after, one of their smarter members, Ahmed Maxwell House, found that if you roasted the seeds and added a liquid you could produce a good tasting drink. We can only hope that these wanderers, traversing the dessert, used water as their diluent liquid.

Coffee drinking became a way of life, in a spectacular fashion, in this country after the Boston Tea Party. It has been alleged that 50% of the world's production of coffee is consumed in 98% of American homes each year.[2] Caffeine was initially isolated from coffee in 1821 and the rest is history.

Caffeine is ubiquitous in this country and is found in coffee, of course, and in tea, cocoa, chocolate, soft drinks, many over-the-counter drugs used as stimulants or diuretics, analgesics and appetite suppressants. Those of you old enough to remember "APCs" from World War II recall their universal usage against all pathological evils. The composition of this panacea was aspirin, phenacetin and caffeine — hence the name "APCs." We used this substance in the "sick bay" whenever there was a complaint that we could not cure by painting the diseased area with merthiolate.

Caffeine is a methyl xanthine quite similar to other xanthines such as theobromine or theophylline and is a weakly, basic alkaloid. Caffeine is quite rapidly absorbed orally, rectally (say what? Listen, nurse, if I want coffee, I drink it or not at all) and subcutaneously. After absorption, this drug rapidly diffuses in the total body water and tissues. The volume of distribution is approximately 1 liter per kilo.

From Department of Pediatrics, Bowman Gray School of Medicine, Winston-Salem 27103.

Peak serum levels are reached in approximately thirty to sixty minutes. caffeine is metabolized in the liver and excreted by the kidney, and only 10% of the drug is excreted unchanged. The half-life of caffeine is 3.5 hours except in young infants, where it is prolonged.[3]

Caffeine can produce many changes in the metabolism of the human body. For example, caffeine causes an increased accumulation of cyclic nucleotides through inhibition of phosphodiesterase (really? I did not know that). This reaction appears to augment the effect of some hormones, especially norepinephrine, and thus caffeine increases plasma catecholamine concentrations. Caffeine can also cause a decrease in glucose tolerance possibly due to catecholamine release, can cause induction of hepatic drug metabolizing enzymes, and is a diuretic, as most of you already are aware. It also increases the permeability of calcium in the sarcoplasmic reticulum, possibly causing the enhanced contractility of skeletal and cardiac muscle seen only too commonly with caffeine use. Caffeine blocks receptors for which adenosine is an agonist. Adenosine dilates blood vessels, slows the rate of cardiac pacemaker cells and inhibits the release of catecholamines from autonomic nerve endings.[4] These effects may be important to recall when we begin to think about caffeine side effects and overdose.

Remember the song, "I love coffee, I love tea . . . I love the java jive and it loves me." You say you don't remember — you got no cool. In any case, the "java jive" may not like you. Caffeine is a recognized stimulant of gastric acid and pepsin production and has the ability to reduce the tone and function of the lower esophageal sphincter with resulting abdominal pain and "heartburn," feelings known to us all. Caffeine can also increase secretions from the small intestine giving rise to diarrhea. Thus it appears caffeine has the ability to exert its effects on the central nervous system, smooth and skeletal muscle, the cardiovascular system, the kidney, and the general metabolism of all users.

Caffeine exerts its effects on the central nervous system by stimulating the cerebral cortex, medullary, respiratory vasomotor and vagal centers, as well as the spinal cord. Average doses of 85-250 mg result in feelings of less fatigue, less drowsiness and more alertness. Doses of 250-500 mg can cause anxiety, restlessness, insomnia, tremors and hyperaesthesia. Doses of 500 mg can cause convulsions. The effect that caffeine has on the cardiovascular system probably depends to a large degree on dosage and is difficult to predict with any degree of accuracy. It is known that the myocardium is stimulated directly, but central vagal stimulation may overcome local effects. In very sensitive caffeine consumers, average doses may cause tachycardia, palpitations and ventricular extrasystoles. Most of the time caffeine produces vasodilation, but in moderate doses cerebral meningeal vessels constrict. Skeletal muscle has an increased capacity for muscular work following caffeine ingestion. Other effects include the diuretic, whereby moderate doses of caffeine cause an increased renal excretion of sodium and water. Doses of 3-9 mg per kg of caffeine raise the basal metabolic rate by 10%.

Fortunately, death from caffeine overdose is rare; as you might surmise, remarkable spontaneous emesis occurs rapidly following large oral doses. The lethal dose of caffeine in an adult is between 5 and 10 grams. There is no known minimum toxic dose that is agreed upon, but one gram in an adult can produce seizures, tremors, tachycardia, vomiting, diarrhea and fever. Severe symptoms in children have occurred after an oral dose of 78 mg/kg and deaths have been reported in children after oral doses of 5.3 grams. to put these amounts in perspective, consider the following:[5]

Brewed Coffee	85-100 mg/cup
Tea	30-75 mg/cup
Soft drink	up to 54 mg/12 oz can
Cafergot	100 mg/tablet
Fiorinal	40 mg/tablet
OTC analgesics	16-32 mg/tablet
OTC cold preparations	15-30 mg/tablet
OTC stimulants	100-200 mg/tablet
Look-alike drugs	37.5-325 mg/tablet

"Look-alike" preparations, AKA "legal uppers," "pseudospeed," etc., look-a-lika amphetamines, methamphetamine and other prescription stimulants. These widely used and available non-prescription products are sold as appetite suppressants and stimulants and usually contain caffeine, phenylpropanolamine and ephedrine. Most of these preparations are made to look like prescription dose units of amphetamines. The FDA, in November 1983, communicating via the Federal Register, mandated that caffeine, phenylpropanolamine and ephedrine or combinations of any two of these will no longer be allowed on the market. However, illegal combinations can still be found on the "street." Recently, five deaths due to caffeine in "look-alike" drugs were reported.[6]

With the background information, it should be relatively easy to predict the clinical course of patients who overdose on caffeine, either accidently or on purpose. It is no surprise that gastrointestinal symptoms are the earliest adversities to present; they consist of abdominal cramps, world-class nausea and vomiting (can be hemorrhagic) and diarrhea. It is stated by many authorities that central nervous system signs and symptoms are the most common and most consistent and begin often as agitation and restlessness before proceeding to tonic posturing, fever, rigidity, fluctuating levels of coma and convulsions. The cardiovascular effects of caffeine overdose are much to be feared and may well be the cause of death in such cases. Sinus tachycardia, PVC's, bigeminy, paroxysmal atrial tachycardia and cardiovascular collapse can occur. Systemic hypertension has also been reported. Pupils are most often miotic but may be dilated. A recent article reports acute psychosis occurring in an adolescent patient with anorexia nervosa who ingested mega quantities of caffeine.[7]

Laboratory findings in caffeine overdose include hyperglycemia, glycosuria, ketonuria, hypokalemia and periph-

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eral leucocytosis. It is possible to obtain plasma caffeine levels, which reach a peak within two hours of ingestion. Irritability and tonic posturing have occurred with levels of 1.7 mg/dl, tachycardia and convulsions have occurred with levels of 4.6 mg/dl, coma and opisthotonus with 12.5 mg/dl and death with levels greater than 15 mg/dl six hours after ingestion.[3] Our patient died 20 hours after ingesting caffeine with a caffeine level of 1.1 mg%; we have no idea what was earlier in the course and no other drugs were found in the toxicology samples. You cannot use caffeine levels anyway, as the toxic or lethal levels vary so widely in the literature as to be of no clinical use in management except for qualitative identification of the drug.

Treatment

The treatment is supportative, as there is no antidote or antagonist. Gastric emptying, charcoal and cathartic administration appear to be indicated. Seizures can be treated with intravenous diazepam or phenytoin or phenobarbital if diazepam fails. Giving liquid antacids may reduce the gastric irritation. The cardiac arrhythmias that ensue can be treated with an appropriate agent dependent on the type and severity of the disturbance. Monitor fluid and electrolyte balance, urinary output and cardiopulmonary status. Most cases of caffeine overdose do not result in death.

Realizing that many of our young people have annoying and disgusting mannerisms and habits, we might copy a plan proposed by Jonathan Swift in 1729. Our man Swift was an Episcopalian clergyman in Ireland who is acclaimed for his marvelous satirical writings. He is best known for his classic tale, *Gulliver's Travels*. What to many children is a grand adventure story is really an attempt by the author to satirize the pettiness of human nature in general and the government in power in particular. Swift entered politics to represent the Irish church in petitioning the English Queen and government to provide funds for the church. He was turned down and decided to seek revenge in the only way he knew how; using his accomplished literary skills. He also wrote an essay which is considered a classic among lovers of English literature; it is called *A Modest Proposal*[8] — subtitled "For Preventing the Children of Poor People in Ireland From Being a Burden To Their Parents or Country And for Making Them Beneficial To The Public." In this outrageous tract, he proposed a plan to raise and market Irish babies for food. This was his way of satirizing the failure of the English government to provide the necessary funds for the Irish poor. It is considered the most savage of his writings; I mean the man was angry but also very clever. Now, what do you think? Should we harvest our incorrigible teenagers and put them to good use? Raise them for food for local consumption and export? (It would probably help our ailing balance of trade.) By the way, I won't be eating any, thank you. I've heard they taste terrible in pasta. ■

References

1 Weil A, Rosen W. Chocolate to morphine. Boston: Houghton Mifflin Co., 1983, p. 40.
2 Johson RB, et al. Coffee — treat or trick. AFP 1975;11:101.
3 Caffeine. Clin Toxicol Rev 1979;1:1.
4 DiPalme JR. Caffeine. AFP 1982;25:206.
5 Caffeine, Poisindex Substance Identification. Micromedex Corp. 1987.
6 Garriott JC, et al. Five cases of fatal overdose from caffeine-containing "look-alike" drugs. J Anal Toxicol 1985;9:141.
7 Shaul PN, et al. Caffeine toxicity as a cause of acute psychosis in Anorexia nervosa. J Peds 1984;105:493.
8 Shugrue M, ed. The essay. New York: Macmillan Publishing Co, Inc. 1981, p. 519.

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Controlled Substances from the Emergency Room

Edited by Eugene W. Linfors, M.D.

How should physicians respond to patients who hop from Emergency Room to Emergency Room for the purpose of obtaining controlled substances? How can these patients be identified? Should knowledge of this drug-seeking behavior be made available to other Emergency Rooms in the area?

From E. Jackson Allison, Jr., M.D., M.P.H., Chairman, Department of Emergency Medicine, East Carolina University, Greenville.

Our group of academic emergency physicians at the Department of Emergency Medicine, East Carolina University School of Medicine/Pitt County Memorial Hospital in Greenville, have collectively developed a high index of suspicion when confronted by patients who are seeking narcotic medications. Quite honestly, we have also been fooled at least twice in the past seven years, and these experiences have helped to remind us not to repeat similar mistakes in the future.

It is always helpful to request old records when we suspect drug-seeking behavior. Many times these records will contain shocking revelations, such as those about an ECU professor who had received an unbelievable number of dosages of narcotics over a ten-year period: it literally took three volumes of charts from Medical Records to document the total spectrum of abuse. Once we had fully identified the problem, we took the following steps: the patient was not allowed to receive any further narcotic agents in the Emergency Department unless the patient was being admitted to hospital; a discreet memo was circulated to all concerned parties, notifying them of the extent of this patient's involvement; the State Bureau of Investigation (SBI) was alerted.

We have a system of notifying other Emergency Departments in our region of patients who present who are obviously seeking narcotic medications. Again, this mutual cooperation amongst colleagues over the past few years has been very gratifying.

We always notify the SBI of patients who exhibit suspicious behavior in our Emergency Department. The particular SBI agent in Greenville who deals with these cases has been exceptionally helpful and professional.

We have three forms of internal communication within the Emergency Department to make sure that the physicians and nurses are aware of patients who attempt to abuse our Emergency Department in this realm: we have a communications book at the nurses' station, in which we make appropriate notations about these patients; the physicians also have a confidential communications book they keep locked up for more in-depth information whenever the SBI and/or other Emergency Departments become involved; and the nurses have a similar book. We also make appropriate notices for the registered nurses who serve as our triage officers on a rotating basis in the Emergency Department.

In summary, these patients need to be dealt with appropriately, yet firmly; the proper authorities such as the SBI need to be notified early, as well as our colleagues in surrounding Emergency Departments; communications is the key to halting drug-seeking behavior.

From Frederick W. Glass, M.D., Head, Section of Emergency Medicine, The Bowman Gray School of Medicine, Winston-Salem.

For those who work in the Emergency Department and for all other physicians who handle patients on an out-patient

From 306 Gregson St., Durham 27701.

basis, it is difficult to recognize the professional drug abuser. There are a few obvious signs which would include puncture wounds of the extremities, peculiar behavior or the fact that they are allergic to certain, specific narcotics which you would like to prescribe. The most common complaints include the kidney stone, headache, and those with abdominal pain.

I have adopted the almost rigid policy of dispensing no narcotics except one or two tablets of Demerol or Dilaudid on an out-patient basis. My universal pain medication includes Codeine if I think the patient is in pain, and if the pain is more severe than Codeine will take care of I strongly suggest hospitalization and a work-up. This discourages many of the professional abusers but there are a few still who get into the system by being willing to accept any of these procedures. Although these people are difficult to identify at times, we do have a mechanism in this city between two major Emergency Departments of notifying each other when we think we have seen such patients.

I am uneasy with this working philosophy, realizing that there are many patients who will continue to have pain, but I believe that the consequences of controlling the substance are as important as having the patient come back to the Emergency Department for further work-up.

From Noel B. McDevitt, M.D., a plastic surgeon in Pinehurst.

As a plastic surgeon, I see very few patients for whom prescribing of controlled substances might be questionable. Identification of such individuals can be difficult, particularly when there has been an antecedent history of injury or illness which might have, as an associated problem, chronic pain.

Generally when there is a question regarding this, a psychiatric consultation is in order; and frequently, particularly for suspected chronic pain syndromes, referral to a pain clinic is suggested. The patient who resists such referrals might be suspected as one who is the "hopping patient."

The question of sharing the identification of individuals who are hopping from Emergency Room to Emergency Room involves patient confidentiality, unfortunately; and while desirable, could leave the physician and/or institution open to action from an individual thus identified. Legislation allowing such identification would be desirable, but careful safeguards would need to be included to prevent abuse and improper identification of such individuals.

From Ronald B. Mack, M.D., Chairman, Committee on Drug Abuse and Pharmacy, NC Medical Society.

I believe that we need a 24-hour-a-day, 7-days-a-week, central repository, computerized, with easy access by modern or other electronic gear, to provide information on habitual emergency room "shoppers" for controlled substances.

I also believe physicians need legal immunity, as we do in child abuse cases, so that we may report suspicious potential drug-abusing behavior with impunity.

Emergency rooms in the same general area should be allowed to share information regarding drug-seeking persons even if it requires a state statute.

From Daniel G. Sayers, M.D., Section of Emergency Medicine, The Bowman Gray School of Medicine, Winston-Salem.

The conscientious physician must not let considerations such as the identification of drug seekers prevent the judicious use of pain relieving agents in the emergency setting. The relief of pain remains one of the most important foundations of medical practice. I believe it is clearly better to give a narcotic to an habitual user than to refuse a person who is in agonizing pain. Physicians are not and should not be police, in my opinion.

On the other hand, it is appropriate to withhold controlled substances where pain medication can confuse physical findings and interfere with the ordinary course of diseases which rely on pain patterns for their accurate diagnosis. Additionally, physicians would not knowingly aid and abet the habitual user of controlled substances except in cases where it is necessary to interrupt a severe withdrawal reaction which may be dangerous. The act of withholding controlled substances may be quite within ethical limits in the appropriate circumstance.

With these background statements in mind, I feel that it is quite important to identify drug-seeking in emergency departments as well as in physicians' offices. Physicians' offices tend to be less accessible and less impersonal than emergency departments, and it is more difficult to see a new physician on each visit in the office setting.

The emergency department, with shift physicians who sometimes travel long distances to work relatively infrequent shifts, and with immediate and unquestioning access 24 hours per day, is more vulnerable and is quite easily found by the traveling drug user.

In my experience, identification of the traveling substance abuser can be quite easy in the setting of a patient who requests drugs without the stigmata of severe pain or who approaches the physician in a seductive, dependent or demanding manner. Often there are vague or unprofessional notes from alleged physicians in different states or in some cases discharge summaries from large institutions such as teaching hospitals. Most times, the physician is unreachable on the telephone or if called, will describe obscure diagnoses, early departure from the hospital or poor follow-up.

Patients may exploit real diseases or physical findings and sometimes go from emergency department to emergency department with complaints of severe pain relating to these. Another red flag may be multiple allergies which prevent studies from being performed or which make the use of medium strength pain medications impossible. In some cases, old charts from the institution will be of help in showing a somewhat inappropriate pattern in seeking emergency department care to the exclusion of scheduled follow-up visits.

The problem for the somewhat isolated emergency department physician is to establish the repetitive or exploitative pattern. Communication patterns among emergency departments are poor because they are cumbersome and because emergency department physicians tend not to know one another well. There exists no central repository for information, and legal considerations have prevented us from reporting patients by name on a mere supposition unless the evidence is quite strong. Occasionally, local hospitals or regional systems can notify one another, but no regular procedure or predictable patterns have been established to my knowledge. The occasional message from one hospital to another will allow an exploiter to be confronted and rarely this will interrupt that person's pattern. We have no method of enforcement, however, unless it can be demonstrated that fraud has been perpetrated by the use of false names, misuse of insurance or clear misrepresentation. The result is that in most cases, the inappropriate drug seeker will simply be discharged to try again somewhere else if he or she so chooses. It is interesting to me that the people I have identified as drug seekers in the past often are quite hostile and threatening when denied pain relief. I think in most cases that this must have been at least partially successful for them in obtaining drugs or they would not display this type of behavior, which clearly alienates the health care provider.

I would like very much to see or to stimulate discussion about a central repository where information could be deposited and easily accessed regarding the inappropriate use of the emergency department, particularly in the case of drug seeking. I believe that the North Carolina Hospital Association has cooperated in publishing descriptions of "professional patients," but these documents have been of little help to me because they are oftentimes out of date. Something like this system needs to be initiated using electronic communication technology. To date, the problems of confidentiality and the potential for false accusation have largely prevented a public dialogue about how to implement such a program. We have addressed this issue in the North Carolina Medical Society's Committee on Alcohol and Drug Abuse, and personnel from the State Bureau of Investigation have expressed interest in developing systems by which abusers might possibly be identified.

I feel sure that the majority of emergency physicians would be quite enthusiastic about a method by which an individual physician could discover whether or not a patient who appeared suspicious had displayed similar behavior at other institutions. In the Winston-Salem/Greensboro region, the cooperative efforts of the State Bureau of Investigation and emergency physicians have in at least one case resulted in the apprehension of a patient with known carcinoma of the lung who sought Dilaudid in six separate emergency departments in one 24-hour period. I feel that this type of cooperative effort is quite appropriate and that it benefits both the medical profession and the citizens of North Carolina. I think that physicians need to have some assistance in the identification of this type of psychopathology in order that public services might be notified to initiate investigation and possibly treatment programs. I believe that in this situation, the physician has a similar responsibility to that which obtains when a case of child abuse is identified. We simply do not know the scope of the problem nor its ramifications. In order to describe the epidemiology of this problem, we must have a safe and effective method which will enable us to learn the true incidence.

From Harold R. Silberman, M.D., Medical Director, Emergency Department, Duke University Medical Center.

There are numerous excesses in the use of emergency rooms these days and certainly high on any list of inappropriate visits are those made by individuals who come solely to seek analgesics. This is no surprise since a particular segment of our society, which harbors many with drug habits, uses ERs almost exclusively for all of their medical, surgical and psycyological needs.

Unfortunately, the type of behavior under discussion, which includes hopping from emergency room to emergency room for the sole purpose of obtaining controlled substances, can receive too much emphasis or the wrong type of attention. Nurses, doctors, and even secretaries, frustrated by certain aspects of emergency medicine, frequently get caught up in the fun of catching these folks. This game of "gotcha" may be temporarily satisfying, but certainly isn't a productive effort for an emergency department.

Identifying the so-called "drug seeker" is still an imperfect and sometimes expensive process. Needletracks are the most blatant clue. Nurses, especially during the triage function, pick up on certain characteristic mannerisms including evasive answers to questions, eye avoidance, and a composure inappropriate for the reported severity of pain. All of that, along with a claimed "sixth sense," suggests that the patient doesn't have a legitimate complaint. Sometimes a member of the staff actually recognizes a repeating offender. I many instances, it's necessary to spend some money on laboratory studies, x-rays or even scans in order to rule out possible causes for pain such as renal stone, fracture, pneumonia or even an intracranial process. Missing certain diagnoses in an addict could be just as expensive during and after litigation as it would be if drug misuse were not at issue.

In the Duke Hospital Emergency Department we keep a card file of those people identified as coming solely for narcotics, and some of them have several aliases. However, it requires that a nurse or doctor be suspicious enough to look in that file for assistance when evaluating a patient's symptom.

Although a very pertinent point of law could be raised concerning the legality of sharing information without an individual's expressed consent, it has seemed morally and ethically appropriate for ERs to warn one another about drug seekers under the rubric of reducing direct injury by restricting access to harmful substances, or preventing an indirect injury such as trauma to pedestrians or operators caused by an impaired driver. Even though this kind of spreading the word has become commonplace and could be called the standard of practice, that alone might not protect one against a theoretical suit based on breach of confidentiality. This area certainly needs more thought and discussion.

There is a constant obligation for physicians to inform and teach in all areas of patient contact regardless of the arena or the medical setting. It is appropriate and important to inform each person known to be abusing himself or herself with substances, that: (1) you, as the doctor for this current encounter, are aware of their unhealthy behavior; (2) they need to seek treatment for drug dependency; (3) you've made an entry into their chart about the problem; (4) some emergency room staff share this kind of information with one another; and (5) it is a criminal offense to withhold information about the recent use of analgesics while trying to obtain something for pain from a new doctor (called "doctor shopping" by narcotics officers and SBI agents).*

America's problems with illicit drugs are manifold and extensive. A small portion of a very complex situation is played out in emergency rooms. ER doctors should certainly participate in some way towards the control of this tragedy without being naive about their expectations and without expending energies that are better used in their primary goal, the recognition and urgent management of severe medical or surgical crises. Part of the essence of emergency medicine is learning how to prioritize. I clearly put catching drug addicts low on my list of priorities even though it can sometimes be good sport!

*Statute North Carolina GS. 90-108 (A) (13)

"To obtain controlled substances through the use of legal prescriptions which have been obtained by the knowing and willful misrepresentation to or by the intentional withholding of information from one or more practitioners."

"Any person who violates this section shall be guilty of a misdemeanor. Provided, that if the criminal pleading alleges that the violation was committed intentionally, and upon trial it is specifically found that the violation was committed intentionally, such violations shall be a class I felony."

From Anthony J. Weisenberger, M.D. and Alan L. Krueger, M.D., practicing psychiatrists at Appalachian Hall, Asheville.

We have discussed this issue and also elicited the opinions of several other staff members. The following are our thoughts:

MDs should become more aware of techniques of addicted individuals and should come to understand "drug-seeking" behaviors.

Physicians should medicate more for *signs* rather than *symptoms*.

With computerization, MDs should be able to establish patterns of ER utilization within their own facility. This information would be valuable in determining the drug-seeking bahaviors.

As to legislation/controls, it is our understanding that we have a "doctor shopping" law in the state. This should be utilized. When and if a person is suspected of obtaining drugs from various MDs/ERs, they should be reported to the SBI's Drug Diversion Unit (Keith Bulla — 919/292-5320) for an investigation.

Again, we need to recognize that the majority of problems are known to MD/ER personnel, but they do not confront.

From Charles S. Betts, M.D., a physician in Asheboro.

These patients need to be identified by some central tracking mechanism, for they are addicts in the true sense of the word, using every bit of manipulative behavior that they have at their disposal in order to sustain their habits. Usually these patients can be identified by realization of the fact that they often ask for specific drugs for their problems, usually Dilaudid or Demerol. Often if patients come into the emergency room requesting specific medication this will alert the emergency room physician to a potential drug problem. Unless these addicts are identified and placed into a treatment program, they will continue to be a menace to an already busy emergency room population.

The knowledge of this drug-seeking behavior in these various patients should be made available to other emergency rooms in the area. It is through central tracking and distribution of such information that these patients stand the best chance of getting help.

It is important to keep in mind that these patients who exhibit such drug seeking behavior do not have the choice of foregoing drugs. It is a common misconception that either with will power or by simply saying no they can stop of their own free will. By the time these patients hop from emergency room to emergency room they have lost all control of their addiction, exhibiting a compulsive and obsessive type of behavior over which they have no control; they are

essentially powerless over their addiction and unable to manage their own lives.

Having been through such a dilemma myself as these unfortunate patients present with, I can appreciate the fact that, unless these patients are stopped and channeled into some meaningful drug rehabilitation program, they will continue to abuse the system as long as they have the means to get from emergency room to emergency room.

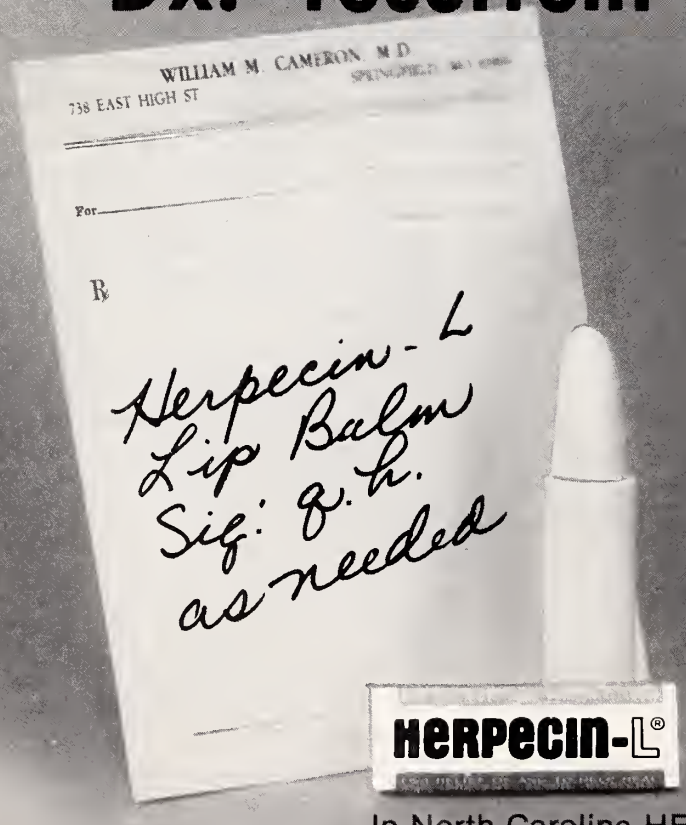
From Stuart Todd, M.D., General and Vascular Surgery, Boice-Willis Clinic, Rocky Mount.

The question of patients who go from Emergency Room to Emergency Room for the purpose of obtaining narcotics is not something I deal with a great amount. We have Emergency Room physicians who see most of that, although I do have an occasional patient with whom that is a problem. Here in Rocky Mount, we have tried to make other physicians aware of these patients and I do not know that there is a standing list of these patients. It seems that once a person is identified as a drug abuser and Emergency Room abuser, it would be reasonable to have a list of these patients posted in the Emergency Room; or if doctors in their offices are aware of patients who are chronic pain abusers, they should make the Emergency Room aware of this problem. As to whether or not it should be made available to other Emergency Rooms in the area, I think certainly that seems reasonable to do.

As a surgeon, I treat a lot of patients with chronic pain, and because of the type of practice I have, several of these people have become narcotic addicts, and the family and patients recognize the problem. Usually, I deal with the pharmacist and we have worked out an understanding about this kind of problem. I have seen very few people who are actually pain medicine abusers. ■

Editor's note: I guess the same question could be asked about people who visit doctors' offices looking for specific drugs.

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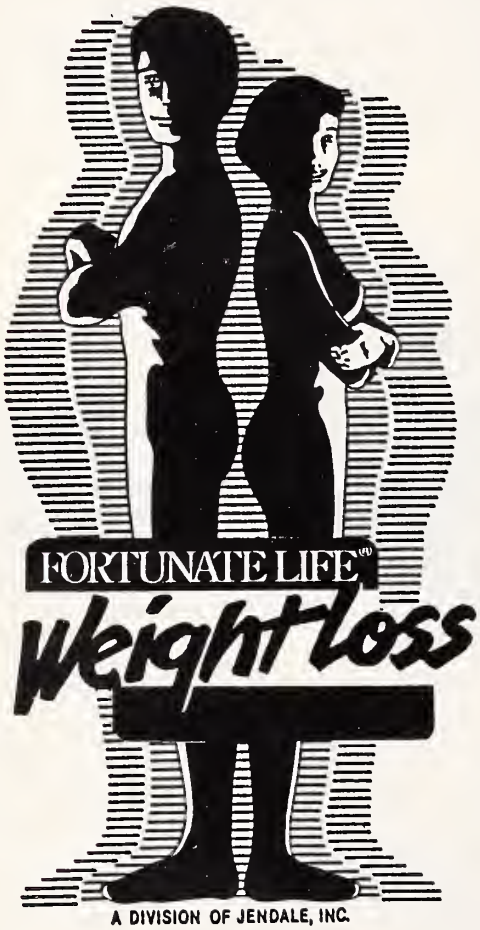
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For Patients

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The Story of Interferon

LINVILLE M. MEADOWS, M.D., HOWARD OZER, M.D., PH.D., and RUSSELL E. KAUFMAN, M.D.

There are a number of interesting stories in medicine. Some demonstrate the latest advances in medical technology. Some reflect the personalities involved, others the manner in which the pendulum of scientific opinion swings back and forth. So it is with the story of interferon, which begins 30 years ago.

Interferon was discovered in 1957 by Dr. Alick Isaacs, who was working with an American graduate student named Jean Lindemann in his laboratory in Mars Hill, England. They were studying influenza virus using amniotic membranes from chicken eggs. They isolated the membranes from fertilized eggs and cultured them in a laboratory dish. When influenza virus was added to the dishes, it would attack the cells in the membranes and kill them. They discovered that if they first killed the virus by heating it, so that it could no longer infect the cells, the cells would then become resistant to a later challenge by live virus. Somehow, exposure to the killed virus allowed the cells to resist infection. When they added the culture fluid from the treated cells to untreated cells, the untreated cells also became resistant to infection with influenza. Exposing the chick cells to killed virus caused the cells to produce a protein which could interfere with the viral infection. They called the protein interferon.

Over the next few years, other investigators confirmed the findings of Isaacs and Lindemann, but because interferon was produced in such minute quantities it was impossible to obtain enough to analyze it biochemically using the techniques then available. Workers in the field came to be thought of as phenomenologists and practitioners of fringe science. Isaacs came to be described as "a serious virologist who'd become a crackpot." Interferon, difficult to study and impossible to purify, became known as "imaginon."

The First Look at Cancer and Interferon

The first evidence that interferon might be an anti-cancer agent came in 1968 from the work of Dr. Ian Glasser. It was known that a number of tumors in mice could be induced by certain viruses, known as retroviruses. He reasoned that if interferon blocked viral infection then it might also prevent the development of the tumors they caused. He injected large doses of interferon into the animals and indeed blocked the formation of the virally-induced tumors. As a control, he injected the mice with transplantable tumors which were not virally induced, but to his surprise, when he treated the mice with interferon, the growth of these tumors was slowed as well. Thus

From Department of Medicine, Division of Hematology/Oncology, Duke University Medical Center, Durham 27710; and Department of Medicine, Division of Medical Oncology, University of North Carolina at Chapel Hill 27514.

interferon was capable of inhibiting the growth of tumors in a manner independent of its anti-viral activity.

Glasser's findings were not considered significant at the time for several reasons. First, a number of substances had been found to inhibit tumor growth in the laboratory, but rarely could such studies be translated into therapy for humans. Second, since a human weighs approximately 350 times as much as a mouse, the quantities of interferon required to treat even one patient would be astronomical.

The problem of producing interferon in quantity was first successfully addressed by Dr. Kari Cantell, working at the Public Health laboratories in Helsinki, Finland. He isolated leukocytes from outdated units of blood, then stimulated them with killed Sendai virus, which caused the leukocytes to make interferon. Literally hundreds of units of blood were required, but by painstaking and laborious efforts he worked out a purification scheme for interferon. The product was still impure by today's standards, and was incredibly expensive, but for the first time, enough interferon was available for clinical studies.

The first human trials were done by Dr. Hans Strander of the Karolinska Institute in Stockholm. He used Cantell's leukocyte interferon to treat patients with a rare bone tumor known as osteogenic sarcoma; research had suggested that this tumor might be related to a viral infection, so it was reasonable to assume that it might be sensitive to interferon. Strander's results suggested that interferon was effective in treating these patients, but he made the classic mistake in clinical oncology — he compared his patients to historical controls, that is, he compared patients treated with interferon to patients who had been treated in the past. By doing this, he ignored advances in medicine that probably also contributed to his patients' survival. Later studies were not able to confirm Stander's results, but the cat was out of the bag. By July 1973, interferon was being touted as a cancer breakthrough on the editorial page of the *New York Times*.

The prevailing climate of scientific thought began to change. In 1975 the first international conference on interferon was held in Washington, D.C. For the first time clinicians, immunologists, virologists, and oncologists were assembled to discuss the possible anti-tumor uses of interferon. Interferon was a topic fit for serious discussion; it had achieved scientific respectability.

Slowly, pressure began to mount on the National Cancer Institute to undertake human trials with interferon in the United States, in spite of its tremendous cost. Florida Congressman Claude Pepper lobbied for such trials on the floor of the U.S. House of Representatives. M.D. Anderson Hospital received a $1 million grant from the Mary Lasker Foundation to buy interferon from Cantell. The American Cancer Society (ACS) also agreed in 1978 to underwrite $2 million to study interferon. The ACS decision to purchase interferon led to an avalanche of publicity; it was the largest amount of money ever committed by the ACS to a single project. Interferon made the cover of *Time Magazine*.

Cloning Interferon

At this point the story of interferon takes another turn, for it was in 1979 that Dr. Tadatsugu Taniguchi, working at the Japanese Cancer Research Institute, announced the molecular cloning of the first interferon gene. It had become increasingly obvious that the powerful tools of molecular biology — the use of recombinant DNA technology to mass-produce biological products — were going to be put to commercial use. New molecular biology companies, the genetic "boutiques," sprang up overnight: Cetus and Genetech in California, Biogen in Switzerland and Cambridge. Some of the larger drug companies such as Hoffman-LaRoche bought these smaller companies outright, or forged alliances with them; others, such as Searle, developed their own programs. To demonstrate the effectiveness of recombinant DNA technology, they chose a biologic product that was prohibitively expensive to produce by natural means: the choice was interferon. The publicity associated with the ACS decision to spend $2 million on interferon probably contributed significantly to the decision by these new companies to make interferon their showcase project. The only major company to abstain from the race was Eli Lilly, which focused its efforts on protecting its $100 million-a-year insulin market by developing Humulin, their recombinant human insulin.

So, how does one go about "cloning" a gene? The central dogma of modern genetics is that the information coded in the cell's DNA, housed in the nucleus, is transcribed into messenger RNA, which is then translated into protein on ribosomes in the cell cytoplasm. The gene of interest may exist in only one or a few copies and be hard to find, but if a cell is producing a lot of the protein, then the messenger RNA will exist in many copies. The messenger RNA can be isolated, and injected into frog eggs which will unwittingly translate it into protein, so it can be detected as interferon. Using this assay, the messenger RNA can eventually be isolated in pure form. Next, an enzyme known as reverse transcriptase is used to copy the RNA back into DNA; If this is done in the presence of radioactive nucleotides, which the enzyme uses as building blocks to assemble the DNA, this copied DNA, also known as cDNA, can be used as a probe to "find" the DNA which originally produced the messenger RNA.

DNA exists as a double-stranded molecule, and when heated, the strands separate, but retain their primary structure. Strands of DNA or RNA which contain complimentary information, and thus a complimentary structure, will hybridize or bind to each other with a high degree of specificity. This binding is the key to isolating



Flash Gordon was the first to use Interferon clinically

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the gene. DNA can be isolated from cells that contain the gene for interferon and cut into small pieces by enzymes known as restriction endonucleases. The radiolabelled cDNA is now allowed to hybridize to the DNA fragments, but will only bind to those that contain the sequences which code for interferon. Because they are radioactive, they can be distinguished from all the other DNA — thus the gene has been isolated.

To make use of this isolated gene, molecular biologists take advantage of an interesting property of bacteria. These bacteria are capable of transferring resistance to certain antibiotics to other bacteria. They do so by means of small pieces of circular DNA that code for proteins which inactivate the antibiotics, and they pass these pieces of DNA, known as plasmids, back and forth, often to the dismay of physicians trying to treat the infections that they cause. The interferon gene was inserted into one of these plasmids, which also carried the gene for resistance to ampicillin. When the plasmid was inserted into bacteria sensitive to ampicillin, and allowed to grow on plates containing ampicillin, only those bacteria which had taken up the plasmid would grow. Since the interferon gene was also on the same plasmid, the bacteria also made interferon — a quite unnatural act! Other techniques can be used to cause the bacteria to overproduce any gene contained on the plasmid, and since bacteria can be grown in huge vats, the interferon — or the product of any other gene — can be produced in staggering amounts.

This description is an oversimplification, and other methods have been used to clone genes, but these techniques can be used to produce biological products in quantity that cannot be obtained by any other means.

Trials in Cancer Patients

Cloning of the interferon gene made available sufficient quantities of interferon for both basic research and clinical trials in patients with cancer.

It was discovered that alpha-interferon, also known as leukocyte or lymphoblastoid interferon, existed in at least 14 slightly different varieties. Beta-interferon, normally produced by connective tissue fibroblasts, exists in only two or three varieties. Alpha and beta appear to share the same receptor on their target cells. Gamma-interferon, the third type of interferon, is different from the others in that it is produced specifically by lymphocytes of the immune system in response to foreign antigens, including but not limited to viruses. It binds to a different receptor than do alpha and beta and exerts numerous effects on the immune system.

When alpha and gamma interferon were tested against laboratory models of cancer, they slowed the growth of

several tumors including breast cancer, melanoma, osteogenic sarcoma and lymphoma. Interestingly, they were capable of slowing the growth of some normal cells as well. When the interferons were tested in the clinic, the results were disappointing, and the side effects unexpected. Patients who received interferon uniformly developed fever, chills, rigors, and headache, and generally felt miserable. Interferon reproduces exactly the symptoms of viral infection; patients given interferon felt as though they had the "flu." The body produces interferon to fight viral infections, and it is the interferon — and not the virus — which causes all the uncomfortable symptoms of influenza.

Few cancers responded to interferon. The tumors that the oncologist would most like to treat — adenocarcinomas of the lung, breast, and colon — were not affected. Other cancers, such as renal adenocarcinoma, myeloma, and lymphoma showed only partial or fleeting responses. In spite of the millions of dollars spent on interferon it was rapidly becoming an "orphan" drug.

When the dust settled from the clinical trials, only three unusual tumors clearly benefited from interferon. The first, known as "hairy cell" leukemia because of its unusual cytoplasmic projections, is very rare, with only 200 new cases found each year. The disease is not treatable with modern chemotherapy, but patients may go into remission following splenectomy. When given interferon, most patients will slowly achieve a long sustained remission that lasts as long as the interferon is given. Interferon appears to control the disease without curing it.

The second interferon-responsive disease is also a form of leukemia, known as chronic myelogenous leukemia or CML. These patients have a long prodromal phase where their leukemia is present but controllable with a number of different drugs. Eventually, a more aggressive phase supervenes that is difficult to treat. Interferon is active during the prodromal phase in controlling the disease, thus adding another tool to the oncologist's armamentarium, but does little during the acute phase when help is most needed.

The third tumor that responds to interferon is also a rare cancer known as a carcinoid. These tumors secrete a large variety of hormones which produce unusual effects such as flushing, diarrhea, and valvular heart disease. Interferon slows the growth of carcinoids, and during treatment, the level of tumor hormones falls measurably. Thus, after years of research, interferon has found a small but useful niche in the treatment of cancer. The most recent chapter in the story of interferon, however, suggests that its future may be more interesting than its past.

Looking Ahead

The tools of molecular biology have been applied with stunning success to the question of how both cancer cells and their normal counterparts grow. Normal cells require at least two signals in order to divide. These signals, known as growth factors, are tightly controlled by the cell; for unrestrained growth would result in cancer. Cancer cells, on the other hand, appear to secrete their own growth factors, constantly stimulating themselves to divide, thereby evading the controls governing normal growth. Because cancer cells are constantly dividing, they are incapable of differentiating into normal cells. Just as there are signals for a cell to divide, there are signals that tell the cell to stop dividing and begin differentiating into normal tissue.

The concept of chalones, or negative growth factors, has been around for many years, but like interferon, these compounds were exceedingly hard to study. Much recent work suggests that the role of interferon in the body may be to control growth rather than to halt the spread of viral infections. Interferon appears to be the first of a group of negative growth factors which act in concert to halt cell division and induce differentiation. Two other proteins, known as tumor necrosis factor and transforming growth factor-beta, act similarly.

Two or more signals may be required to stop growth, just as at least two signals are required to initiate growth. Even though cancer cells produce their own "on" signals, they may still respond to the appropriate "off" signals, supplied by chalones. The search is on for other negative growth factors which can cooperate with interferon in halting tumor growth. The use of such natural body products, known as biologic response modifiers, may hold the key to curing or controlling cancer. ■

Innovative AMA Medical Payment System

WILLIAM H. DAVIS

This article, and the one that follows it, are in the nature of advertisements. The editor has elected to publish them without charge because he believes a knowledge of these types of systems will be useful to those of us practicing medicine. We have put them in the patient information section because we want to reach the managerial folks as well as the doctors.

A new service designed to provide rapid reimbursement for medical services and reduced administrative cost is now available to North Carolina physicians. Medical Payment Systems, Inc. (MPS), working closely with the North Carolina Medical Society, the AMA and major insurance carriers, has developed an innovative physician/patient service to streamline the reimbursement process in the medical community.

Following an extensive field-testing program with nearly 100 Cleveland-area physicians, the system has been refined with the features necessary to provide the fastest, most effective payment delivery service possible.

Concept and Development

The service, marketed as the AMA Medical Payment System to reflect a proprietary agreement between the AMA and MPS, is based on a payment concept patented by Dr. Lawrence E. Pritchard, a Cleveland physician. Dr. Pritchard's concept has been expanded into a nationwide electronic service with wide application. In developing the system concept, he incorporated three requirements.

The first requirement was to reduce the administrative time and problems associated with collection of patient, insured and insurance information needed to complete payment and file insurance claim transactions at the time of service.

The second requirement was to provide the fastest possible payment cycle to physicians for both assigned and non-assigned claims, regardless of the technical and administrative capabilities of the third-party payor.

The third requirement was to provide a system that would be available and beneficial to all physicians, requiring no capital investment or training expenditure.

How the System Works

While the system is highly complex and sophisticated in nature, the real key to its application is operational simplicity. The heart of the system, from the standpoint of physicians and their patients, is two basic elements. The first is a plastic MPS card issued to every patient. This card is magnetically encoded with a number that accesses the patient's specific demographic and insurance data through the AMA Medical Payment System. The second element is an easy-to-use service device that is installed in a normal telephone line in each physician's office. This device, which is no more complicated than a typewriter, reads the patient's MPS card and electronically transmits information to initiate claims for payment of medical services.

These two elements meet and exceed the first requirement established for the system by virtually eliminating the time-consuming, costly and repetitive collection of patient and insurance information. Each office has been given the speed and accuracy of computerized transmission without the need for a computer. To meet the second requirement, for fast payment to physicians for medical services, the AMA Medical Payment System provides a number of patient and physician options. The fastest form of payment is at the time of service.

Encouraging patients to choose the manner in which they would like to reimburse their physicians at the time of service, the system offers three payment alternatives: by cash; by check; or with a program using the patient's bank credit cards.

From President, Medical Payment Systems, Inc.

Depending on the third-party payor's administrative and technical capabilities, this system will forward the claim electronically or by paper. This meets the second requirement of providing the fastest possible payment cycle to physicians for both assigned and unassigned claims.

The AMA was instrumental in meeting the final requirement of providing the service to all physicians without need for them to invest in capital, equipment or training. It is part of the agreement between the AMA and MPS that physicians nationwide be able to provide this valuable service to their offices and patients on a risk-free basis, regardless of the size of their practices. To do this, the charge for the service is based on a fee of $1 per transaction ($.90 for AMA members) plus normal credit card charges where applicable.

The AMA recognizes the revolutionary impact the system can have on the entire medical community, from the obvious patient and physician benefits to wider-ranging cost containment effects. ■

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Submitting Electronic Medical Claims

RONALD J. MEYER

A new way to submit claims electronically is now available to physicians in North Carolina. Technology has been developed which enables medical office systems to routinely dial a telecommunications network and submit claims to over thirty carriers, including The Prudential Insurance Co. (Medicare 'B'claims), and to the National Electronic Information Corporation (NEIC) for commercial carrier and Railroad Retirement Claims.

The claims clearinghouse network is available by a local call from 25 cities in North Carolina and a total of 650 cities nationwide. There is a toll-free number for practices outside the local dial areas.

Designated the EMC*EXPRESS™ System, the service has been introduced successfully in Illinois, California, Pennsylvania and eight other states. The service is being marketed through vendors of physician and hospital computer and software systems. The Company and the vendor select and tailor appropriate communications technologies. These vendors then aid medical offices in switching from paper claims to paperless claims systems.

In place, the system works something like this:

A typical subscriber might be a physician with a microcomputer and a practice management software package. During the day, the system is used to maintain patient records, prepare financial reports and provide word processing capability. As patient claims are prepared on the computer, they are stored for batch transmission that night. At the appropriate time thecomputer dials the local telephone number of the teleprocessing network and transmits the claims accumulated during the practice day.

Claims are sorted by a central computer and stored in "mailboxes" to await a phone call from the designated insurance carrier. Carriers call after 3:00 a.m. each day and extract the claims. Thus, claims can be in the carrier's computer within 24 hours of the patient visit. Error reports are returned electronically by some carriers.

Some vendors also offer microcomputers which function strictly as claims entry workstations.

The Benefits to Physicians

Faster turnaround of claims. Mail delays and claims entry work are eliminated at the carrier site, so a significant number of days are cut from the process.

Lower error rates. Computer systems are capable of checking for designated errors and omissions before the claim is sent, and they normally reduce or eliminate the need to manually re-enter data — the process that is most susceptible to human error.

The network supports a wide variety of devices and protocols from either the provider side or the carrier side. This means that subscribers to the clearinghouse generally can continue to use existing computer equipment and avoid the need to invest in new equipment.

In effect, the network is acting as a single pipeline to the primary carriers accepting batches of claims from a number of health care providers and preparing them for pickup by insurance carriers.

As a result, it is generally possible for physicians and billing services to access the network and to submit claims in one format to the local Medicare Part B carrier, Medicaid, Railroad Retirement, and to processors of group health claims, including Blue Shield. ■

From 401 N. Washington St., Rockville, MD 20650.

A Picture Is Worth A Thousand Words? Not Always...

Some Plain Talk on Physician Dispensing

Q. What is Physician Dispensing?

A. It is the resurgence of a time honored service that once included all doctors. It is that service that can save your patients' time and allow you to conveniently dispense the prescriptions you write in your own office. In short Physician Dispensing combines income enhancement with increased patient convenience.

Q. How do I really know my patients will like this service?

A. Extensive surveys and the experience of thousands of doctors have shown that many patients prefer the convenience of purchasing their medications directly from their physicians. With our recommended prices, your patients will usually SAVE money and time.

Q. Is Physician Dispensing ethical?

A. Yes, just as other physician's services — lab, x-ray, diagnostic procedure. Physician Dispensing is ethical since patients have the choice to drive to the pharmacy or let you fill their prescriptions.

Q. Will dispensing affect my insurance?

A. In the view of most insurers, you are already dispensing when you give sample drugs to the patient or administer injections, so dispensing represents no change.

Q. How much staff time is involved in dispensing and is there much *extra paperwork*?

A. Our computerized labeling and record keeping system is very efficient. *All needed reports are automatically generated.* It only takes about 60 seconds to dispense a prescription ... frequently less time than calling back and forth to the drug store.

Q. May I try the system in my office without obligation?

A. You can order a 30 day supply and get acquainted with the system. We will come in and help you get started. If you should find that dispensing is just "not for my practice", *You may return any unused medication within 30 days, without any further obligation.*

Q. Why should I choose CompuMed as my dispensing system?

A. CompuMed's System has been designed to meet the individual Physician's specific needs...designed after thousands of hours of hands on experience actually helping physicians dispense in their practices...designed from the inside of the physician's office up — not from the warehouse or the board room down:

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Q. Is an investment required to get started?

A. Nothing, CompuMed can structure terms so no cash investment is needed.

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Ovarian Pregnancy

Robert V. Higgins, M.D., Jack L. Crain, M.D.

Primary ovarian pregnancy is a rare entity with approximately 300 cases reported in the literature.[1] The diagnosis is seldom made preoperatively; the pathologic specimen must meet the criteria of Spiegelberg before the diagnosis is confirmed. This is the story of our patient who met the criteria.

A 32-year-old woman Gravida 6, Para 4, Abortus 1 presented to Charlotte Memorial Hospital (CMH) with a two-day history of left lower quadrant pain. This lower abdominal pain was not accompanied by any gastrointestinal or urinary symptoms. Her last normal menstrual period was eight weeks prior to admission but she had experienced vaginal spotting ten days before admission. She was sexually active and not using any form of birth control. Significant past history included treatment for gonococcal cervicitis and IUD use for two years after the birth of her last child.

The patient was afebrile without orthostatic hypotension or tachycardia. She was in no distress. Abdominal exam revealed no tenderness, guarding, or rebound. Pelvic exam showed a soft anteflexed uterus, approximately six-week size, and a nontender cystic mass in the left adnexa.

Quantitive beta-HCG level was 17,666 mIU/ml. Pelvic ultrasound showed an "empty uterus" with a 4.2 cm mass in the left adnexa.

With a HCG titer greater than 6,500 mIU/ml and no intrauterine sac seen on pelvic ultrasound, ectopic pregnancy seemed the most likely diagnosis. Therefore, diagnostic laparoscopy was utilized to determine the site of the pregnancy. Laparoscopy revealed a normal right ovary and fallopian tube with approximately 20 cc of blood in the cul-de-sac. Despite manipulation with a second puncture probe, the entire length of the left fallopian tube could not be visualized due to omental adhesions attached to the left adnexal structures. The four cm mass suggested on pelvic ultrasound was not apparent, as the left ovary was not visible.

Laparotomy confirmed the right ovary and right fallopian tube to be normal. The left fallopian tube including the fimbria were normal without adhesions or bleeding. The left ovary, covered by small bowel and not encased in omental adhesions, contained a four cm hemorrhagic cyst. This appeared to be a hemorrhagic corpus luteum cyst without evidence of a pregnancy.

With the hemorrhagic cyst the only abnormal finding, a left ovarian cystectomy was performed. The opened cyst contained a membranous ring which appeared to represent a gestational sac. Frozen section and permanent sections confirmed an ovarian pregnancy.

Postoperatively the patient did well and was discharged home on the fifth postoperative day.

Epidemiology

The first report of an ovarian pregnancy case was written in 1682 by Saint Maurice, and numerous case reports were published subsequently.[2] No author has a large series due to the rarity of this problem. In 1970 Lehfeldt and associates stated that one ovarian pregnancy occurred in 40,000 deliveries.[3] Recent data indicate the incidence to be approximately one in 7,000 pregnancies, or 0.7 to 1.0 per 100 ectopic pregnancies.[4] However, it is difficult to determine whether this increased incidence is real or apparent. The increased rate may be due to a greater awareness of the problem, increased reporting, and/or a more thorough search of the pathologic specimen.

Risk factors for ovarian pregnancy appear to be similar to factors related to tubal pregnancies. These factors include a history of pelvic inflammatory disease, prior pelvic surgery, and IUD usage. The association of ovarian pregnancy with the IUD has been controversial; some authors have suggested if an IUD user has an ectopic pregnancy she has a one-in-nine chance of having an ovarian pregnancy.[5] Subsequent work by Lehfeldt in an exhaustive study showed the IUD is 99.5% effective in preventing intrauterine pregnancies, 95% effective in preventing tubal pregnancies, and has no influence on the ovarian pregnancy rate.[3]

In one of the largest reviews of ovarian pregnancies, Hallatt compared 25 patients who had ovarian pregnancies with patients who had tubal pregnancies. The average age, gravidity, and percent using an IUD were not significantly different between the two groups. A distinction between these two groups was the lack of infertility in the ovarian

From the Department of Obstetrics and Gynecology, Charlotte Memorial Hospital and Medical Center, P.O. Box 32861, Charlotte 28232.

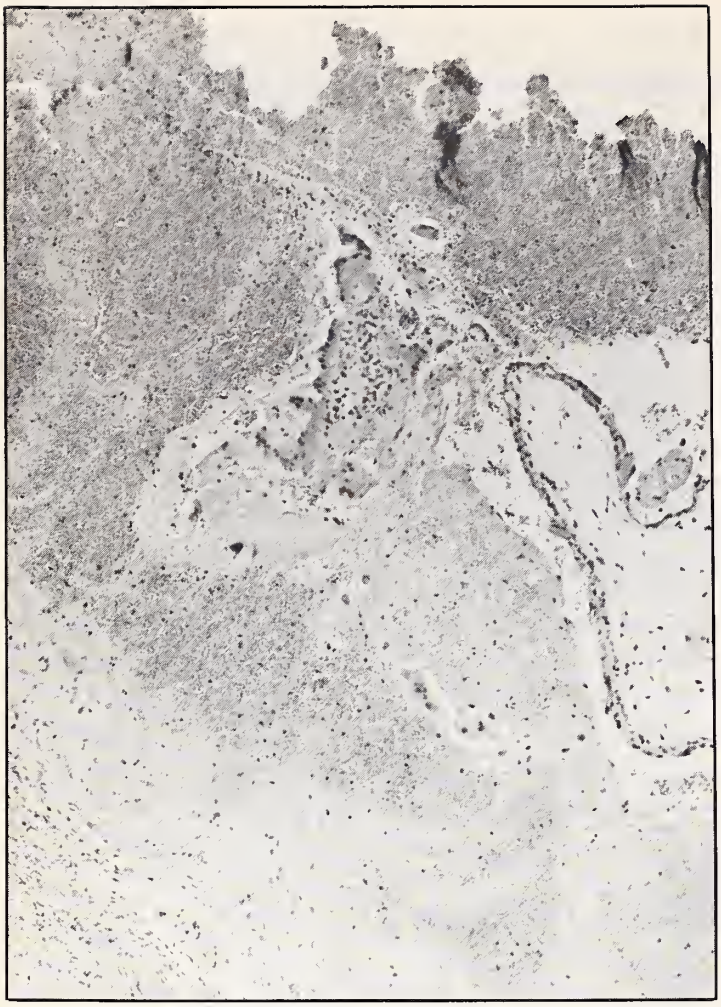


Figure 1. In the upper right, chorionic villi are encased in ovarian parenchyma. Ovarian parenchyma demonstrates a portion of the corpus luteum, and in the lower left, an ovarian follicle.

pregnancy group. Only four percent of the ovarian pregnancy patients had experienced infertility, compared to 20% in the tubal pregnancy patients.[6]

The mechanism of ovarian pregnancies is unknown. Various theories have been offered and reviewed by Boronow and associates.[2] Most authorities believe ovarian pregnancies are fertilized in the ampullary portion of the fallopian tube and secondarily implant on the ovary. This is based on knowledge that the oocyte is not capable of fertilization until it completes the second phase of the meiotic division which occurs after ovulation. However, some authors state fertilization can be intraovarian in the rare instance of intraovarian maturation.[2]

Diagnostic Criteria

In 1878, Spiegelberg outlined the pathologic requirements for an ovarian pregnancy: (1) The tube on the affected side must be normal; (2) The gestational sac must occupy the normal position of the ovary; (3) The sac must be connected to the uterus by the ovarian ligament; (4) Definite ovarian tissue must be present in the sac wall.[7] The photomicrograph (figure 1) demonstrates chorionic villi abutting the corpus luteum from our patient's left ovary.

Clinical Presentation

Most ovarian pregnancies are diagnosed in the first trimester and present with symptoms similar to tubal pregnancies. Hemoperitoneum may be slightly more common with ovarian pregnancies compared to tubal pregnancies due to the vascularity of the ovary.[6] Other symptoms of an ectopic pregnancy such as abdominal pain, abnormal vaginal bleeding, and adnexal tenderness are common with ovarian pregnancies. There is no one feature in clinical presentation which differentiates an ovarian from a tubal pregnancy, though one study indicated that amenorrhea was a striking feature in ovarian pregnancies.[8]

Diagnostic studies include serum levels of beta-HCG, culdocentesis, ultrasound, and laparoscopy. Pre-operative localization of an ectopic pregnancy to the fallopian tube can be made but localization to the ovary is rare.

Management

The surgical management should be ovarian cystectomy or wedge resection, preferably with microsurgical techniques.

Grossly, an ovarian pregnancy appears as a ruptured corpus luteum or as a hemorrhagic ovary. Any further surgery should be performed only if bleeding cannot be stopped or if the patient desired permanent sterilization.[9] The previous practice of removing the ipsilateral fallopian tube for pathologic study to rule out an initial tubal implantation site should be abandoned. ■

References

1 Check JH, Chase JS. Ovarian pregnancy with a contralateral corpus luteum: case report. Am J Obstet Gynecol 1986;154:155.
2 Boronow RC, McElin TW, West RH, et al. Ovarian pregnancy. Report of four cases and a thirteen year survey of the English literature. Am J Obstet Gynecol 1965;91:1095.
3 Lehfeldt H, Tietze C, Gorstein F. Ovarian pregnancy and the intrauterine device. Am J Obstet Gynecol 1970;108:1005.
4 Peterson HB. Extratubal ectopic pregnancies. Diagnosis and treatment. J Reprod Med 1986;31:108.
5 Tietze C. Letter to the editor. Am J Obstet Gynecol 1968;101:275.
6 Hallat JG. Primary ovarian pregnancy: a report of twenty-five cases. Am J Obstet Gynecol 1982;143:55.
7 Jones HW, Jones GS. Novak's textbook of gynecology. Tenth Edition. Baltimore, Williams and Wilkins, 1981, p. 654.
8 Evans MI, Angerman NS, Moravec WD, et al. The intrauterine device and ovarian pregnancy. Fertil Steril 1979;32:31.
9 Grimes HG, Nosal RA, Gallagher JC. Ovarian pregnancy: a series of 24 cases. Obstet Gynecol 1983;61:174.

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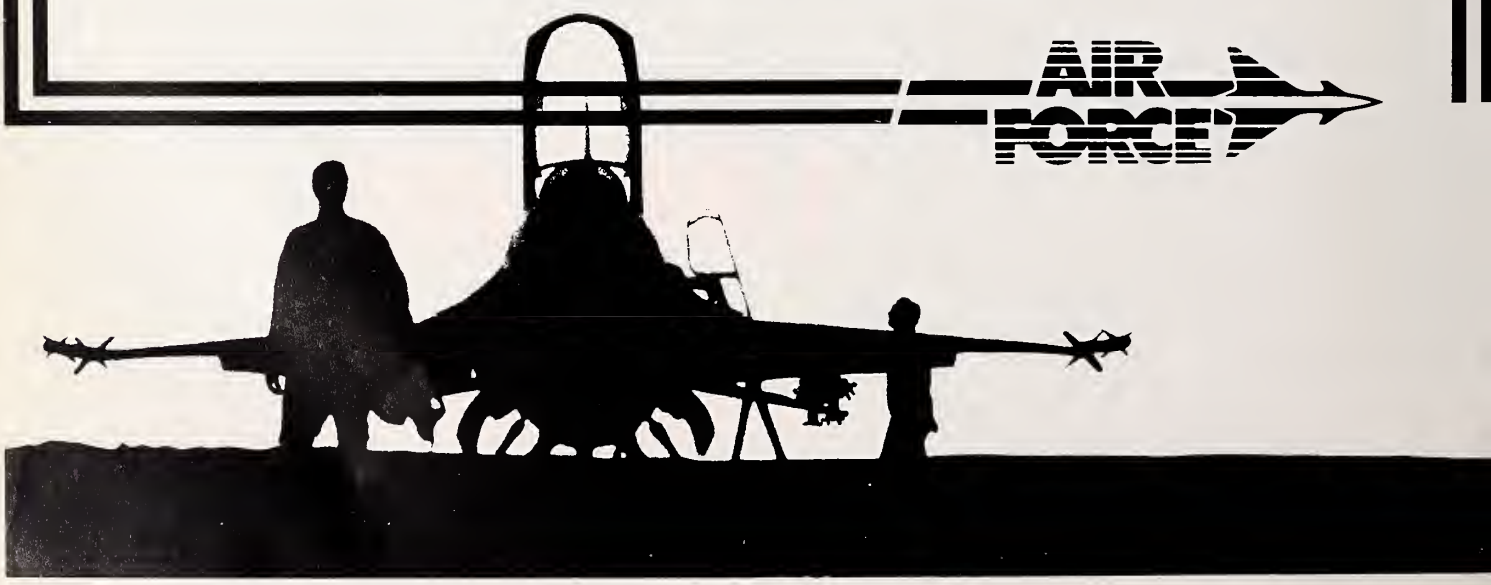
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Brief Summary. Consult the package literature for prescribing information.
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Otitis media due to *S pneumoniae, Haemophilus influenzae,* staphylococci, streptococci, and *Neisseria catarrhalis*

Skin and skin-structure infections caused by staphylococci and/or streptococci

Bone infections caused by staphylococci and/or *Proteus mirabilis*

Genitourinary tract infections, including acute prostatitis, caused by *Escherichia coli, P mirabilis,* and *Klebsiella* sp.

Note—Culture and susceptibility tests should be initiated prior to and during therapy. Renal function studies should be performed when indicated.
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Warnings: BEFORE CEPHALEXIN THERAPY IS INSTITUTED, CAREFUL INQUIRY SHOULD BE MADE CONCERNING PREVIOUS HYPERSENSITIVITY REACTIONS TO CEPHALOSPORINS AND PENICILLIN. CEPHALOSPORIN DERIVATIVES SHOULD BE GIVEN CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS.

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There is some clinical and laboratory evidence of partial cross-allergenicity of the penicillins and the cephalosporins. Patients have been reported to have had severe reactions (including anaphylaxis) to both drugs.

Any patient who has demonstrated some form of allergy, particularly to drugs, should receive antibiotics cautiously. No exception should be made with regard to Keflet.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C difficile.* Other causes of colitis should be ruled out.

Usage in Pregnancy—Safety of this product for use during pregnancy has not been established.
Precautions: *General*—Patients should be followed carefully so that any side effects or unusual manifestations of drug idiosyncrasy may be detected. If an allergic reaction to Keflet occurs, the drug should be discontinued and the patient treated with the usual agents (eg, epinephrine or other pressor amines, antihistamines, or corticosteroids).

Prolonged use of Keflet may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Keflet should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

Indicated surgical procedures should be performed in conjunction with antibiotic therapy.

As a result of administration of Keflet, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—The daily oral administration of cephalexin to rats in doses of 250 or 500 mg/kg prior to and during pregnancy, or to rats and mice during the period of organogenesis only, had no adverse effect on fertility, fetal viability, fetal weight, or litter size. Note that the safety of cephalexin during pregnancy in humans has not been established.

Cephalexin showed no enhanced toxicity in weanling and newborn rats as compared with adult animals. Nevertheless, because the studies in humans cannot rule out the possibility of harm, Keflet should be used during pregnancy only if clearly needed.

Nursing Mothers— The excretion of cephalexin in the milk increased up to 4 hours after a 500 mg dose; the drug reached a maximum level of 4 μg/mL, then decreased gradually, and had disappeared 8 hours after administration. Caution should be exercised when Keflet is administered to a nursing woman.
Adverse Reactions: *Gastrointestinal*—Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely. The most frequent side effect has been diarrhea. It was very rarely severe enough to warrant cessation of therapy. Dyspepsia and abdominal pain have also occurred. As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.

Hypersensitivity— Allergic reactions in the form of rash, urticaria, angioedema, and, rarely, erythema multiforme, Stevens-Johnson Syndrome, or toxic epidermal necrolysis have been observed. These reactions usually subsided upon discontinuation of the drug. Anaphylaxis has also been reported.

Other reactions have included genital and anal pruritus, genital moniliasis, vaginitis and vaginal discharge, dizziness, fatigue, and headache. Eosinophilia, neutropenia, thrombocytopenia, and slight elevations in SGOT and SGPT have been reported.

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Epithelial Ovarian Cancer

Prolonged Relapse-Free Survival Following Secondary Cytoreductive Surgery and Intraperitoneal 5-Fluorouracil

Barton R. Paschal, M.D., Charles E. Welander, M.D.

The treatment of epithelial ovarian cancer usually begins with hysterectomy, bilateral salpingo-oophorectomy, omentectomy and technically feasible cytoreductive surgery. Postoperatively, many of these patients are candidates for systemic chemotherapy, administered for the purpose of eradicating any residual disease. When chemotherapy is employed, one can assess its efficacy by performing second-look laparotomy.

The finding of macroscopic disease at the time of second-look laparotomy signals a poor prognosis. Even among those patients who subsequently undergo "optimal" secondary cytoreductive surgery (no postoperative tumor mass greater than 1.5 cm in diameter), the median survival time is only 20 months.[1] We report two patients with epithelial ovarian cancer, both of whom underwent optimal cytoreductive surgery followed by the administration of intraperitoneal (IP) 5-fluorouracil (5-FU). They achieved relapse-free survival times of 35+ and 38+ months.

Patient One

In March 1983, a 58-year-old woman with ascites and a 10 cm left adnexal mass underwent hysterectomy, bilateral salpingo-oophorectomy and omentectomy for stage II poorly differentiated endometrioid carcinoma of the ovary. She received six cycles of intravenous doxorubicin (50 mg/m^2) and cisplatin (50 mg/m^2) at three-week intervals between April and August 1983. Computerized tomography (CT) scan of the pelvis obtained at the beginning and another obtained just after completion of adjunctive chemotherapy revealed no abnormal masses.

In December 1983, the recurrence of ascites and the appearance of a right pleural effusion prompted the performance of an untrasonogram of the pelvis and a diagnostic thoracentesis. The thoracentesis did not reveal malignant cells, but the ultrasonogram disclosed a large pelvic mass. The patient underwent laparotomy in January 1984 at which time a 12x10x8 cm tumor mass wedged between the left wall of the pelvis and the rectosigmoid colon was resected *in toto*. Biopsies from multiple sites within the peritoneal cavity showed no other evidence of disease. Postoperatively, the right pleural effusion resolved spontaneously.

Three months later, the patient underwent insertion of a Tenckhoff catheter to facilitate the administration of IP 5-FU. The regimen used was one gram 5-FU in two liters Inpersol with 1.5% dextrose (Abbott Pharmaceuticals, North Chicago, IL), using a four-hour dwell-time for each of eight consecutive exchanges. Courses of IP 5-FU were administered biweekly. In June 1984, having received three cycles of IP 5-FU, the patient developed severe abdominal pain which persisted for several weeks, necessitating hospitalization and termination of IP therapy. The patient's disease-free survival time has now reached 35+ months.

Patient Two

A 61-year-old woman with lower quadrant abdominal pain and a left pelvic mass (figure 1) underwent resection of a poorly differentiated papillary adenocarcinoma arising from the left ovary in December 1981. Approximately 10% of the original tumor volume, which was adherent to the left pelvic side-wall, was unresectable. The appendix, uterus, right ovary and right fallopian tube were not identified intraoperatively, and it was incorrectly assumed that all of these had been resected previously.

Between December 1981 and May 1982, the patient received eight cycles of intravenous cyclophosphamide (500 mg m^2), doxorubicin (30 mg/m^2), and cisplatin (50 mg/m^2), followed by second-look laparotomy. Two 3 mm nodules on the parietal peritoneum overlying the sacrum were identified and excised, and one contained residual tumor. There was no attempt to dissect the retroperitoneal node-bearing areas.

From Asheville Hematology and Oncology Associates, P.A., Asheville 28801, and Department of Obstetrics and Gynecology, Section on Gynecologic Oncology, Bowman Gray School of Medicine, Winston-Salem 27103.

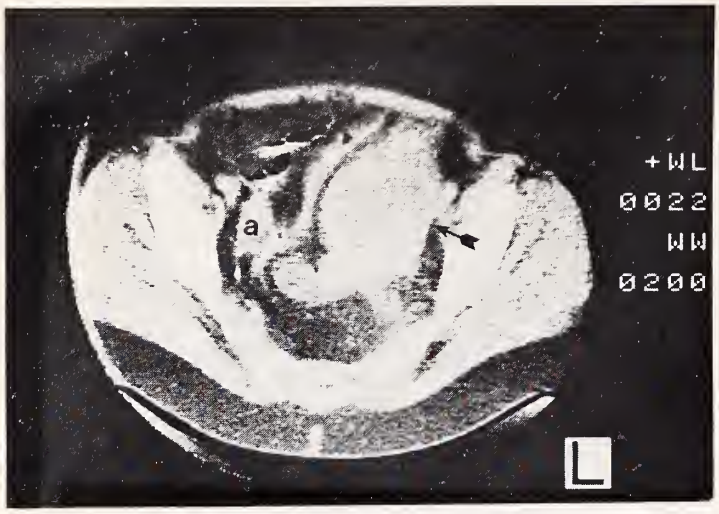


Figure 1. CT scan of the pelvis obtained in 1981 demonstrating a 10 cm left pelvic mass (arrow). In retrospect, the right ovary (a) is discernible.

The patient then received intravenous 5-FU 400 mg/m^2/week between June 1982 and January 1983, followed by laparoscopy which disclosed no macroscopic disease. Cytologic examination of the peritoneal fluid, however, revealed malignant cells. Six cycles of IP 5-FU were administered via a Tenckhoff catheter between January and April 1983 using the same treatment protocol as described for Patient One. At the beginning of the fourth cycle, cytologic examination of the peritoneal fluid showed no malignant cells. All treatment was discontinued following the sixth cycle of IP 5-FU.

When the patient noted lower abdominal pain in September 1983, a CT scan was obtained which disclosed a right pelvic mass. Percutaneous needle biopsy of the mass revealed carcinoma. Laparotomy was performed in October 1983 at which time the pelvic tumor, located beneath the peritoneum in the right pelvis, was excised completely. Washings obtained intraoperatively from the peritoneal cavity revealed no malignant cells. The patient has had a relapse-free survival time of 38+ months, and has required no further therapy.

A review of this patient's microfilmed medical records disclosed that she had undergone appendectomy and right salpingectomy in 1942. At the time of abdominal hysterectomy in 1967, both ovaries were identified. Apparently the right ovary was tucked beneath the right pelvic peritoneum during surgical closure of the pelvic peritoneum following hysterectomy. As a result, the right ovary escaped detection by the surgeon who performed the initial and the second ovarian cancer operations. Retrospective review of a CT scan from 1981 shows the right ovary to be present (figure 1).

Discussion

Approximately 60% of patients with advanced ovarian carcinoma who are clinically free of tumor and undergo second-look laparotomy will have histopathologic and/or cytologic evidence of residual cancer. Among those patients with residual cancer, two-thirds will have macroscopic disease.[2,3] The presence of macroscopic tumor at the time of second-look laparotomy indicates a poor prognosis.[1]

The lack of consistently effective therapy for patients with residual disease at the time of second-look laparotomy, and the fact that such residual disease is often confined to the peritoneal cavity, have prompted the development of IP chemotherapy. A variety of agents, including 5-FU, have been evaluated for use in this setting.[4,5] Pharmacokinetic studies demonstrate that when 5-FU is administered directly into the peritoneal cavity, the IP drug concentration exceeds the plasma drug concentration by a factor of 300:1.[6] The clinical utility of an IP/plasma concentration gradient is illustrated by the second patient's response to IP 5-FU, which followed the failure of intravenous 5-FU to provide any measurable benefit.

An atypical feature of the second patient's management is the fact that unilateral rather than bilateral oophorectomy was performed in 1981, because the presence of the right ovary was not appreciated at that time. The right ovary escaped detection again during second-look laparotomy. Had the patient undergone routine dissection of the retroperitoneal lymph nodes during either of these two operations, the right ovary should have been noted and resected, thereby obviating the need for the third surgery. A more comprehensive review of the patient's previous pelvic operations might also have resulted in recognition at an earlier time that the right ovary was still present.

The fact that the right ovary represented the only site of residual disease at the time of the third laparotomy for ovarian cancer suggests that the right ovary may have served as a "tumor sanctuary" during the administration of chemotherapy. An analogous situation exists in men with metastatic germ cell cancer of the testis who do not undergo ipsilateral orchiectomy prior to attaining a complete response to chemotherapy. In such cases, the ipsilateral testis can become a sanctuary for testicular cancer.[7]

Previous reports concerning the use of IP 5-FU in patients with ovarian cancer are confined to two studies conducted by the National Cancer Institute (NCI).[8,9] In a phase II study of IP 5-FU performed in 14 patients with refractory ovarian cacer, one patient (who had no tumor mass greater than 2 mm in diameter following second-look laparotomy) achieved a complete response (relapse-free survival, 36+ months).[8] In the other report, 12 patients with no residual disease at the time of second-look laparotomy were randomly assigned to receive either no further therapy or six cycles of IP 5-FU. Of the six patients who received IP 5-FU, four patients have remained free of disease, attaining relapse-free survival times of 52+ months or longer, while the other two patients who received IP 5-FU have relapsed. In contrast, of the six patients who received no IP 5-FU, only one patient has remained free of recurrent tumor.[9]

In the phase II study of IP 5-FU conducted at the NCI, moderate to severe abdominal pain was observed during or after 30-50% of the treatment cycles.[8] If IP 5-FU is ever to gain acceptance as a therapeutic tool, the incidence and severity of treatment-related abdominal pain must be reduced. By applying to patients who receive IP 5-FU the same measures that are employed to treat chemotherapy extravasations, one might reduce the degree of peritoneal irritation associated with the use of this drug. For example, the IP administration of dialysate that has not been warmed fully to body temperature might exert an anti-inflammatory effect upon the peritoneum through a mechanism analogous to that which has been observed when cold is applied to the sites of doxorubicin extravasation.[10] The systemic or IP administration of histamine receptor antagonists and/or glucocorticoids might also be explored for use in this setting.

Like 5-FU, cisplatin possesses antitumor activity when administered via the IP route. Indeed, among ovarian cancer patients who have undergone optimal secondary cytoreductive surgery and have residual disease, IP cisplatin affords complete response rates which are superior to those observed following the use of IP 5-FU (33% vs 13%). Since the antitumor activity of IP cisplatin in ovarian cancer surpasses that of IP 5-FU, the clinical utility of IP 5-FU may not lie in its use as a single-agent, but rather in its use (sequentially or concommitantly) with other IP agents.

A direct relationship between tumor size and response to therapy is probably extant for all IP drugs.[4,8,11] Accordingly, ovarian cancer patients who have small-volume disease either at the time of second-look laparotomy or following debulking surgery represent a target population for whom IP therapy might prove useful. Other potential candidates for this approach to therapy include patients with no tumor at the time of restaging operation who, because of certain clinical characteristics, also have a high risk of developing recurrent disease.[9,12-15] In regard to the use of IP 5-FU in particular, it is important to bear in mind the fact that, to date, IP 5-FU has yet to effect a complete response in any ovarian cancer patient whose largest residual tumor nodule exceeds 2 mm in diameter.[8]

Our case reports illustrate a number of important points. First of all, it is useful not only to review completely the nature of previous pelvic operations in patients in whom a diagnosis of ovarian cancer is entertained, but also to carry out a thorough exploration of the pelvis whenever surgery for ovarian cancer is performed. Second, the resistance of a given patient's ovarian cancer to intravenous 5-FU does not preclude the possibility of a subsequent response to IP 5-FU. Third, long-term relapse-free survival times are achievable in ovarian cancer patients who have macroscopic disease at the time of second-look operation, assuming that cytoreduction has occurred or will occur to such an extent that IP agents such as 5-FU can exert a therapeutic effect.

Although the optimal integration of IP chemotherapy into multimodality treatment programs for ovarian cancer will require additional investigation, this novel approach to therapy is already a useful addition to the cancer specialist's therapeutic armamentarium. ■

References

1 Berek JS, Hacker NF, Lagasse LD, et al. Survival of patients following secondary cytoreductive surgery in ovarian cancer. Obstet Gynecol 1983;61:189-93.

2 Miller DS, Ballon SC, Teng NNH, et al. A critical reassessment of second-look laparotomy in epithelial ovarian carcinoma. Cancer 1986;57:530-5.

3 Copeland LJ, Gershenson DM, Wharton JT, et al. Microscopic disease at second-look laparotomy in advanced ovarian cancer. Cancer 1985;55:472-8.

4 Ozols R. Intraperitoneal chemotherapy in the management of ovarian cancer. Semin Oncol 1985;12(Suppl 4):75-80.

5 Berek JS, Hacher NF, Lichtenstein A, et al.Intraperitoneal recombinant ∝-interferon for "salvage" immunotherapy in stage III epithelial ovarian cancer: a Gynecologic Oncology Group study. Semin Oncol 1986;13(Suppl 2):61-71.

6 Speyer JL, Collins JM, Dedrick RL, et al. Phase I and pharmacological studies of 5-fluorouracil administered intraperitoneally. Cancer Res 1980;40:567-72.

7 Greist A, Einhorn LH, Williams SD, et al. Pathologic findings at orchiectomy following chemotherapy for disseminated testicular cancer. J Clin Oncol 1984;2:1025-7.

8 Ozols RF, Speyer JL, Jenkins J, et al. Phase II trial of 5-FU administered ip to patients with refractory ovarian cancer. Cancer Treat Rep 1984;68:1229-32.

9 Louie KG, Ozols RF, Myers CE, et al. Long-term results of a cisplatin-containing combination chemotherapy regimen for the treatment of advanced ovarian carcinoma. J Clin Oncol 1986;4:1579-85.

10 Dorr RT, Alberts DS, Stone A. Cold protection and heat enhancement of doxorubicin skin toxicity in the mouse. Cancer Treat Rep 1985;69:431-7.

11 Markman M, Howell SB. Combination intraperitoneal chemotherapy. J Clin Oncol 1985;3:1156-7 (letter).

12 Dembo AJ. Controversy over combination chemotherapy in advanced ovarian cancer: what we learn from reports of matured data. J Clin Oncol 1986;4:1573-6.

13 Dougherty J, Hakes T, Cain J, et al. Recurrence pattern of advanced ovarian carcinoma after negative laparotomy. Proc Am Soc Clin Oncol 1985;4:122 (abstr).

14 Gershenson DM, Copeland LJ, Wharton JT, et al. Prognosis of surgically determined complete responders in advanced ovarian cancer. Cancer 1985;55:1129-35.

15 Vogl SE, Pagano M, Kaplan BH et al. Cis-platin based combination chemotherapy for advanced ovarian cancer: high overall response rate with curative potential only in women with small tumor burdens. Cancer 1983;51:2024-30.

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Neurological-Otological Treatment of Acoustic Tumors

at the Wake Forest University Medical Center

Charles L. Branch, Jr., M.D., B. Hill Britton, M.D. and David L. Kelly, Jr., M.D.

Cerebellopontine angle tumors account for 5-10% of all primary brain tumors. Of these, 80-90% are acoustic tumors (schwannomas); the remainder are meningiomas and epidermoid tumors (cholesteatomas). Contemporary treatment of these neoplasms is curative surgical resection with attempted preservation of the VIIth (facial) and VIIIth (vestibulocochlear) cranial nerves, and other surrounding neurovascular structures.

Prior to 1917 the operative mortality from these procedures had approached 80%. However, that year, Harvey Cushing, with a subtotal resection and meticulous technique, decreased the mortality to 7.7% .[1] Only eight years later, in 1925, Walter Dandy accomplished curative, or total, removal without a significant increase in mortality. In the 1960s William House, an otologist, and Robert Rand, a neurosurgeon, developed microsurgical approaches for the resection of these tumors that resulted in an even lower morbidity.[1,2] The microsurgical technique ushered in an era not only of safer curative surgical resection but also of attempted preservation of both the facial nerve and functional hearing.

Development of the air-contrast computed tomographic (CT) scan, the subsequent development of water-soluble contrast agents (metrizamide, iohexol, iopamidol), and the more recent development of magnetic resonance imaging have facilitated early, rapid, and minimally invasive diagnosis of acoustic tumors. The most recent development in the early diagnosis and treatment of these tumors is the use of the neurosurgical-otological team. The skills of the neurosurgeons and the otologists are combined to provide for the complete removal of acoustic tumors with preservation of the anatomy and function of the involved nerves and surrounding tissues. Sophisticated preoperative and intraoperative evaluations of facial and vestibulocochlear nerve function have further facilitated attempts at that preservation.



Arrows indicate acoustic tumor.

We review the neurosurgical-otological team's experience in the treatment of patients with acoustic tumors at the Wake Forest University Medical Center since the inception of the team in 1984.

From the Sections on Neurosurgery and Otolaryngology, Department of Surgery, Wake Forest University Medical Center, Winston-Salem 27103.

Table 1

Presenting Symptoms in 26 Patients with Acoustic Tumors

Hearing loss	23
Tinnitus	14
Dizziness	16
Headache	5
Trigeminal nerve palsy	5
Brainstem/cerebellar compression	2
Facial nerve palsy	1
Hydrocephalus	1
Dementia	1

Clinical Material

Between March 26, 1984, and July 1, 1986, 26 patients underwent surgical removal of acoustic tumors as a combined neurosurgical-otological procedure. Their ages ranged from 22 to 72 years (mean, 54 years). They fell equally into categories of male and female, left- and right-sided tumors. Tumor size was determined primarily by preoperative CT scan. Sixteen tumors (62%) were small (less than 2 cm in diameter, and including intracanalicular lesions); eight tumors (31%) were medium in size (greater than 2 cm but less than 4 cm in diameter); and two tumors (7%) were larger than 4 cm in diameter.

The primary presenting symptom was hearing loss (23 patients, 88%), which was classified as mild (n = 8), moderate (n = 9), or severe (n = 6). Dizziness, brainstem dysfunction with a cranial nerve palsy, and brainstem dysfunction with hydrocephalus were the primary signs and symptoms in the remaining patients (table 1).

The diagnostic workup included audiometry with vestibular and/or brainstem-evoked responses in 23 patients (88%), magnetic resonance imaging in eight patients, and CT scanning in all patients. While CT scanning of the posterior fossa with air or with water-soluble contrast has excellent diagnostic capacity of even the small intracanalicular tumor, the refinements of magnetic resonance imaging technology may soon make it the diagnostic study of choice for these tumors.

Results

There was no operative mortality. Other complications were few (20%) and most were easily treated: Cerebrospinal fluid (CSF) leakage that stopped spontaneously (n = 1); CSF leakage that required reclosure (n = 3); and trigeminal nerve palsy that required transient tarsorrhaphy (n = 2).

Twenty-four patients had complete tumor removal; the two patients with tumors much larger than 4 cm in diameter had partial tumor removal.

In all cases, intraoperative facial nerve function was monitored with continuous electromyographic testing and, where appropriate, auditory function was monitored with brainstem auditory-evoked responses.

The facial nerve was preserved anatomically in all patients, but immediate postoperative facial nerve function did not always correlate with anatomic preservation. In the patient with a facial nerve palsy preoperatively, no change was seen postoperatively. In the 25 patients with intact facial nerve function preoperatively, 12 (48%) had normal facial nerve function, 12 (48%) had a partial palsy, and one (4%) had a complete palsy immediately after operation. These palsies resolved in all but three patients by 10 months (table 2), for a facial nerve function morbidity of 12%.

Table 2

Incidence of Preserved Facial Nerve and Auditory Function in Patients with Acoustic Tumors

	Functional		
Modality	*Preop*	*Intraop*	*Postop (10 months)*
Facial	25	25	22
Auditory	18	9	7

An attempt to preserve hearing was made in the 18 patients with significant preoperative auditory function. The cochlear nerve was salvageable in nine (50%), and of the nine, seven (39%) had residual hearing postoperatively (table 2).

No recurrence or significant growth of residual tumor has been seen over the 10 to 18 months of followup to date. At six months' followup, 23 patients (88%) had resumed preoperative activity, and three patients remained partially disabled. In only one of the latter three was the result considered poor.

Discussion

Technologic advances, including high-resolution computed tomography with air or water-soluble contrast and magnetic resonance imaging in conjunction with sensitive auditory and vestibular testing, have made possible the relatively noninvasive early diagnosis even of small acoustic tumors. The operating microscope with microinstrumentation, augmented by high-speed drills, ultrasonic aspirator and laser technology, facilitates removal of these tumors and larger cerebellopontine lesions. Advances in neuroanesthesia and intraoperative physiologic monitoring complete the triad of means by which total removal of acoustic tumors is possible with functional preservation of surrounding structures in a large percentage of cases.

An acoustic neurinoma, while its clinical presentation may vary, should be suspected if one (or several) of the following clinical syndromes is encountered: (1) a unilateral progressive hearing loss, often noted first by an inability to understand a person speaking on the telephone; (2) unilateral tinnitus; (3) unexplained, persistent dizziness, unsteadiness, or ataxia; (4) unilateral facial numbness or pain; or (5) progressive facial weakness or twitching. Certainly the patient with one or more of these findings warrants further

evaluation by an otologist, a neurosurgeon, or both to detect or rule out a cerebellopontine angle lesion. High-resolution CT scanning with the infusion of contrast material and with particular emphasis being placed on the internal auditory canal and the cerebellopontine angle is the best first step in evaluating patients with these symptoms.

This report confirms the value of combining the skills of a neurosurgeon and an otologist in the management of patients with acoustic tumors. In our series, there were no operative deaths, 92% of patients had complete tumor resection, and 85% have had an excellent outcome; no tumor recurrences have been seen during the 10 to 18 months of followup to date. While most recent reports indicate preservation of facial function in 65% to 85% of patients,[2-5] 88% of the patients in our series who had had intact facial nerve function before operation maintained that function 10 months after tumor removal. Half of the tumors in these 23 patients had been larger than 2 cm in diameter. Certainly, as these tumors are detected and surgically removed earlier, complete preservation of facial function can be anticipated.

Preservation of functional hearing is also a reality with the contemporary management of these tumors. Jannetta and colleagues[6] reported functional hearing in 66% of patients with small (less than 2.5 cm in diameter) tumors, while Wade and House[7] and Ojemann and colleagues[8] reported postoperative functional hearing in 35% of patients with acoustic tumors of any size. Our ability to preserve some hearing in 39% of patients with preoperative functional hearing and acoustic tumors of any size compares favorably with those results. The size of the tumor may adversely affect the overall outcome, and certainly hearing is more easily preserved if the tumor being removed is small.[6,8]

In our series, there were no postoperative hematomas, brainstem infarctions or injury, and no deaths, as have been reported in larger series.[9]

Both translabyrinthine and suboccipital transmeatal approaches were used in our series, but we used the latter more often, and we are currently using it exclusively. We have not found it advantageous to use a combined suboccipital and translabyrinthine approach advocated by others.[10,11] Intraoperative monitoring of the facial nerve appears to facilitate identification and preservation of this structure. ■

References

1 Rand RW. Suboccipital transmeatal microneurosurgical resection of acoustic tumors. Ann Surg 1971;174:663-71.

2 House WF, Hitselberger WE. The neuro-otologist's view of the surgical management of acoustic neuromas. Clin Neurosurg 1985;32:214-22.

3 Harner SG, Ebersold MJ. Management of acoustic neuromas, 1978-1983. J Neurosurg 1985;63:175-9.

4 Gardner G, Robertson JH, Clark WC, et al. Acoustic tumor management — combined approach surgery with CO_2 laser. Am J Otol 1983;5:87-108.

5 Tos M, Thomsen J. Preservation and reconstruction of the facial nerve after translabyrinthine removal of 200 acoustic neuromas. Adv Otorhinolaryngol 1984;34:176-86.

6 Jannetta PJ, Møller AR, Møller MB. Technique of hearing preservation in small acoustic neuromas. Ann Surg 1984;200:513-22.

7 Wade PJ, House W. Hearing preservation in patients with acoustic neuromas via the middle fossa approach. Otolaryngol Head Neck Surg 1984;92:184-93.

8 Ojemann RG, Levine RA, Montgomery WM, et al. Use of intraoperative auditory evoked potentials to preserve hearing in unilateral acoustic neuroma removal. J Neurosurg 1984;61:938-48.

9 Dawes JDK, Welch AR. Complications of acoustic neuroma surgery. Adv Otorhinolaryngol 1984;34:156-9.

10 Tator CH. Acoustic neuromas: management of 204 cases. Can J Neurol Sci 1985;12:353-7.

11 Shea MC, Robertson JT. Acoustic neuroma removal: a comparative study of translabyrinthine and suboccipital approaches. Am J Otol 1979;1:94-9.

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DESCRIPTION. INDERAL LA is formulated to provide a sustained release of propranolol hydrochloride. INDERAL LA is available as 60 mg, 80 mg, 120 mg, and 160 mg capsules.

CLINICAL PHARMACOLOGY. INDERAL is a nonselective, beta-adrenergic receptor-blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor-stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta-adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (60, 80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL Tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg-for-mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension, it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock; 2) sinus bradycardia and greater than first-degree block; 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

WARNINGS. CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following *abrupt* discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned, the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, eg, dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta blockers should be used with caution in diabetic patients if a beta-blocking agent is required. Beta blockers may mask tachycardia occurring with hypoglycemia, but other manifestations such as dizziness and sweating may not be significantly affected. Following insulin-induced hypoglycemia, propranolol may cause a delay in the recovery of blood glucose to normal levels.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol may change thyroid function tests, increasing T_4 and reverse T_3, and decreasing T_3.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case, this resulted after an initial dose of 5 mg propranolol.

PRECAUTIONS. GENERAL: Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

CLINICAL LABORATORY TESTS: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS. Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Caution should be exercised when patients receiving a beta blocker are administered a calcium-channel-blocking drug, especially intravenous verapamil, for both agents may depress myocardial contractility or atrioventricular conduction. On rare occasions, the concomitant intravenous use of a beta blocker and verapamil has resulted in serious adverse reactions especially in patients with severe cardiomyopathy, congestive heart failure or recent myocardial infarction.

Aluminum hydroxide gel greatly reduces intestinal absorption of propranolol.

Ethanol slows the rate of absorption of propranolol.

Phenytoin, phenobarbitone, and *rifampin* accelerate propranolol clearance.

Chlorpromazine, when used concomitantly with propranolol, results in increased plasma levels of both drugs.

Antipyrine and *lidocaine* have reduced clearance when used concomitantly with propranolol.

Thyroxine may result in a lower than expected T_3 concentration when used concomitantly with propranolol.

Cimetidine decreases the hepatic metabolism of propranolol, delaying elimination and increasing blood levels.

Theophylline clearance is reduced when used concomitantly with propranolol.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

PREGNANCY: Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

NURSING MOTHERS: INDERAL is excreted in human milk. Caution should be exercised when INDERAL (propranolol HCl) is administered to a nursing woman.

PEDIATRIC USE: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: Bradycardia; congestive heart failure; intensification of AV block; hypotension; paresthesia of hands; thrombocytopenic purpura; arterial insufficiency, usually of the Raynaud type.

Central Nervous System: Light-headedness; mental depression manifested by insomnia, lassitude, weakness, fatigue; reversible mental depression progressing to catatonia; visual disturbances; hallucinations; vivid dreams; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics. For immediate formulations, fatigue, lethargy, and vivid dreams appear dose related.

Gastrointestinal: Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: Pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory: Bronchospasm.

Hematologic: Agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: Alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily. If patients are switched from INDERAL Tablets to INDERAL LA Capsules, care should be taken to assure that the desired therapeutic effect is maintained. INDERAL LA should not be considered a simple mg-for-mg substitute for INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitration may be necessary, especially to maintain effectiveness at the end of the 24-hour dosing interval.

HYPERTENSION—*Dosage must be individualized.* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood-pressure control is achieved. The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage of 640 mg may be required. The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three- to seven-day intervals until optimal response is obtained. Although individual patients may respond at any dosage level, the average optimal dosage appears to be 160 mg once daily. In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

MIGRAINE—*Dosage must be individualized.* The initial oral dose is 80 mg INDERAL LA once daily. The usual effective dose range is 160-240 mg once daily. The dosage may be increased gradually to achieve optimal migraine prophylaxis. If a satisfactory response is not obtained within four to six weeks after reaching the maximal dose, INDERAL LA therapy should be discontinued. It may be advisable to withdraw the drug gradually over a period of several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use.

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REFERENCES:

1. INDERAL LA National Compliance Evaluation Program. Data on file, Ayerst Laboratories.
2. Ravid M, Lang R, Jutrin I: The relative antihypertensive potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily. *Arch Intern Med* 1985; 145:1321-1323.

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A Bright Sun Obscures the Stars

W. Blair Brooks, M.D.

Problems with the pursuit of one diagnosis at a time.

Evaluation of chest pain can be expensive, time consuming, and involve significant risk. Patients with chest pain fear coronary artery disease; physicians evaluating these patients are afraid of missing this diagnosis. This combination of fears and the increasing public demand for technologically advanced diagnostic tests leads to a workup of chest pain limited to "ruling out heart disease." Only after the "cardiac workup" is completed are other potential diagnoses or contributing factors (esophageal, musculoskeletal, psychological) explored. Postponing the evaluation of noncardiac diagnoses results in unnecessary invasive testing.

Almy[1] has emphasized that too often internists explore psychosocial etiologies as a retreat after a specific organic disease has been "completely ruled out." He recommends evaluating these areas concurrently. I learned this lesson (again) in a patient I saw recently. The true etiology of the patient's chest pain was revealed only after an extensive and expensive cardiac workup was negative.

The patient's intense fear of coronary artery disease and her knowledge of the symptoms of angina affected the manner in which she presented her symptoms and the way in which I interpreted them. Our fear of missing coronary artery disease was clearly fueled by abnormal tests which further served to focus our energy on excluding heart disease. Had I been successful in hearing historical clues that suggested a noncardiac cause of the chest pain, treatment and resolution of the symptoms might have occurred earlier, and the invasive testing might have been avoided.

Case Report

A 45-year-old premenopausal woman came to Duke Medical Center for evaluation of a six-month history of substernal chest pain. The pain had occurred once a month since its onset and would last up to several hours. These painful episodes were followed by two to three days of chest tightness and soreness.

She described the dull pain during the three most severe episodes as "like an elephant sitting on my chest." The pain radiated down her left arm and was associated with nausea, diaphoresis, palpitations, and two syncopal episodes. She stated, "These pains are just like my brother's heart attack pain." What I did not realize at the time was that she was extrapolating from her brother's pain. Even at her first visit to Duke, she was convinced that her pain represented coronary artery disease and her descriptions of the symptoms reflected this concern.

There were aspects of her history that should have compelled me to aggressively pursue noncardiac causes of the pain. The severe episodes had occurred on the golf course (later I discovered that the episodes always happened after she had swung a golf club) and while answering the telephone at work. They were not related to exertion; brisk walking, her most demanding exercise, never brought on the pain. On several occasions she had gone to an emergency room during episodes of chest pain and her electrocardiograms showed no acute ischemic changes. She had been placed on propanolol and sublingual nitroglycerin; the latter promptly improved the pain but she was left with a residual soreness.

Although her history was suggestive of angina, it also had histrionic features; in addition to the chest pain, she complained of many other somatic symptoms including chronic nausea, bilateral hand numbness, alternating constipation and diarrhea, and intermittent lightheadedness. This myriad of symptoms certainly didn't exclude the presence of coronary artery disease but should have heightened my awareness of possible contributing personality factors.

On reflection, I see reasons why I was diverted onto the cardiac tangent.[2] She did have impressive cardiac risk factors including hypertension (blood pressure 150/100), a positive family history (her father and two brothers had suffered myocardial infarctions in their early forties), obesity (150% ideal body weight), borderline hypercholesterolemia (250 mg/dl), and a 10 pack year smoking history. Although her

From Division of General Internal Medicine, Duke University Medical Center, Durham 27710.

physical examination was completely normal, her resting ECG was abnormal with deep QS waves in V1 and V2, suggestive of an old anteroseptal myocardial infarction.

After the initial evaluation, I embarked on a workup to rule out heart disease even though my intuition was that her pain was not angina. I felt compelled to explain the abnormal ECG and to reassure myself about the cardiac risk factors before further understanding her histrionic personality style and the nonexertional nature of the pain. As we proceeded, the patient and I lost sight of the alternative noncardiac diagnoses. Even in retrospect, I do not think I could have avoided pursuing the cardiac workup at this point; however, simultaneous evaluation of non-cardiac causes would have been useful. Had I been able to maintain the diagnosic evaluation at more than one level, the alternative diagnoses and possible treatments could have become clear earlier.

Lisansky and Shochet emphasize the importance of developing a ''comprehensive'' diagnosis that involves both the medical problem and the psychosocial context of the illness.[3] The importance of the psychosocial context of this patient's symptoms became more evident to me after the cardiac workup was completed. At the time, however, I did not stop to reassess; we plunged ahead.

The Cardiac Workup

The workup began with a treadmill exercise test which I felt would be helpful in confirming or dispelling the diagnosis of angina. In order to assess better the potential usefulness of the stress test, I used Pryor et al's estimates of the likelihood of coronary artery disease.[4] These estimates are based on the clinical assessment of the type of pain (typical angina, atypical angina, or nonangina), cardiac risk factors, and ECG evidence of prior myocardial damage. The calculated probability of coronary artery disease in patients similar to my 45-year-old woman with ''atypical angina'' and an abnormal ECG is 56%. Had I decided that the pain was nonanginal, the pretest probability of heart disease would have been 32%.

How would the outcome of the stress test affect the probability estimates of coronary artery disease in this patient? A positive stress test (2-2.5 mm ST depression) would increase the likelihood of having significant disease from 56% to 74%; a negative stress test (no ST depression) would decrease the likelihood to 18%.

On the other hand, had I decided that the patient's pain was nonanginal, the utility of the stress test would have been affected significantly; a positive test would only increase the probability of coronary artery disease from 32% to 54% while a negative test would decrease the probability from 32% to 12%. Had I been firmly convinced that the chest pain was nonanginal, the stress test would not have had the potential to be as helpful and I would have had to depend less on diagnostic testing and more on historical details. I was less wise then.

The patient underwent the stress test and achieved a maximum heart rate of 150. The test was terminated because of fatigue during stage III of the Bruce protocol. There was 2 mm ST segment depression in leads II, III, AVF, and V5; these results were considered ''positive,'' giving the patient a 74% probability of significant coronary artery disease. Because of the positive stress test, the patient's age, and her family history, a cardiologist recommended cardiac catheterization. The patient underwent this procedure and was found to have normal coronary arteries, normal left ventricular function, and a negative ergonovine provocative test for coronary artery spasm.

Subsequent workup for a GI source of the pain (esophageal manometry and upper endoscopy) was unrevealing.

Pursuing Noncardiac Diagnoses

Now the patient and I were ''forced'' to look for alternative explanations of the chest pain. Before the cardiac catheterization, the focus had been on the possible relationship between exertion and pain. We went back over the history and the patient described two episodes of pain that began when she was sitting at her desk and reaching out in front of her to lift some books off a shelf. The episodes began with the sudden onset of what she called ''crushing'' substernal chest pain followed by sweating, nausea, and near-syncope. Co-workers who observed the patient during her pain noted a slow pulse rate suggestive of a vagal episode. This description of the pain was far more detailed than before and suggested that reaching brought on the pain. Now that both the patient and I were unbiased by the fear of coronary artery disease, a far different interpretation of the symptoms had emerged.

I saw her shortly after an episode of chest pain and for the first time (three months after the initial visit) she had tender costochondral junctions. I prescribed Motrin and her pain improved. Over the next six months she continued to have occasional episodes of chest pain brought on when she reached over her head to lift even light objects. She is no longer taking nitroglycerin and is not as frightened by the pain. She has improved her level of activity and, although initially reluctant to accept a noncardiac cause of her chest pain, she now exhibits significantly less concern about her cardiac status.

Her pain on the golf course and in the work place was precipitated by acute costochondritis. The pain in turn precipitated a vasovagal reaction which caused her angina-like symptoms. Her positive family history sensitized her to the possibility of cardiac disease, and when she developed chest pain, the underlying anxiety about heart disease resulted in the vasovagal response.

Discussion

What is remarkable about this case history is that nearly all the evidence for this explanation for her pain was available

to me at the patient's initial visit. Nevertheless, it is understandable that the abnormal test results provoked our pursuit of the cardiac evaluation. I continue to relearn that patients and physicians often collude by entertaining only one diagnostic possibility at a time. It is difficult not to fall into this trap. Simultaneous evaluation of several diagnostic possibilities is a skill that needs to be cultivated and nurtured constantly. The patient benefits from this multidimensional approach by earlier diagnosis and treatment and sometimes by avoidance of the risk, discomfort and expense of unnecessary testing.

There is perhaps a larger point. Although the patient and I agreed upon a mechanism for the pain that made sense to both of us, it is unlikely that this explanation represents the whole "truth." The chest pain is but one of a constellation of symptoms I will certainly encounter in this patient in the future. To attribute her pain to a simple mechanism (and to believe in this explanation) is to fall into the same trap that led to the cardiac testing. I now better appreciate the physical, psychological and historical factors that contribute to the patient's symptoms, but this is the beginning rather than the end of my investigation. Arriving at this mutually acceptable mechanism for the pain only *allows* me the opportunity to progress toward a better understanding of the underlying factors that contribute to her symptoms. The complexity of her symptoms is just now unfolding. ■

References

1 Almy TP. Therapeutic strategy in stress related digestive disorders. Clin Gastroenterology 1977;6:709-22.

2 Rose M. Objective tangent. Lancet 1977; Vol. II, 8052-8053, Dec. 24/31: 1340-2.

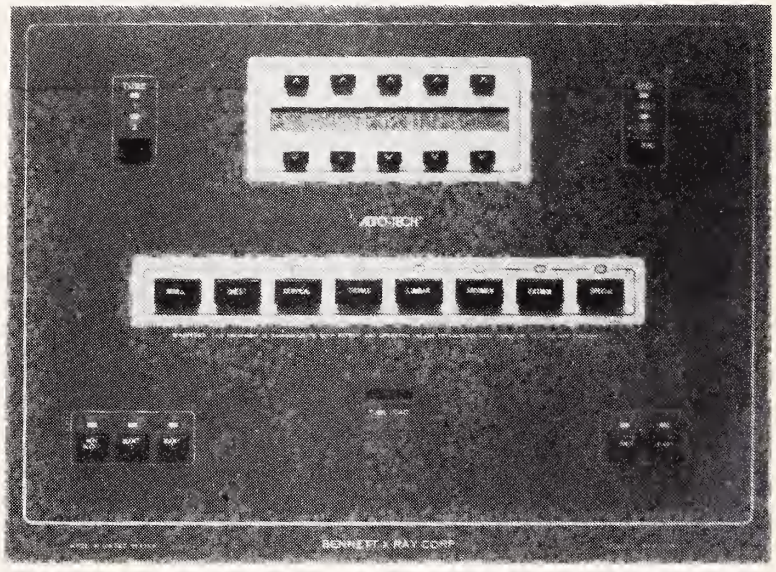
3 Lisansky ET and Schochet BR. Comprehensive medical diagnosis for the internist. Med Clin NA. 1967;51:1381-97.

4 Pryor DB, et al. Estimating the likelihood of significant coronary artery disease. Am J Med. 1983;75:771-80.

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Addiction

New Versions of an Old Problem

Theodore R. Clark, M.D.

I got into the alcohol treatment field as a scared child watering my dad's Scotch so he wouldn't get drunk and fight with my mother. Early on, I decided to be a psychiatrist in order to solve all of the family problems that I thought caused the drinking.

In my turn, I started "partying" and ended up in psychotherapy for a severe drinking problem. The therapy wouldn't work and I started self-medicating with tranquilizers and sleeping pills to avoid being an alcoholic. As a result, I wound up being addicted to drugs and alcohol simultaneously and, after several unsuccessful psychiatric hospitalizations, I bottomed out in a state hospital violent ward, tied down hand and foot with convulsions and DTs.

After that, I abandoned traditional psychiatric approaches of the time and sought help in a self-help group that featured abstinence in conjunction with massive emotional and spiritual support. This worked so well for me that I embarked on an odyssey of building treatment programs around these principles.

I have noted an explosion of the Minnesota Model Treatment Center around the country. North Carolina is no exception; at least ten formal 28-day treatment programs have sprung up in the last decade since alcoholism was decriminalized, and focus has been on recovery from a disease often genetic in predisposition.

I have had a unique opportunity to see alcoholism redefined by the American Medical Association as a disease and to see folk medicine (Alcoholics Anonymous and Narcotics Anonymous) transformed into a state-of-the-art group therapy in the 1970s and 1980s. I have observed major emphasis being placed on better understanding and treatment of family members, spouses and children as well. Adult Children of Alcoholics (ACOA), self-help groups and formal therapy programs are developing for this special form of dysfunctional family.

The drinking or drugging, which may have been stimulated by peer pressure, availability, or present or past stressors, for some people takes on a "life of its own" and propels the person into the downward spiral of addiction.

From Dartmouth Clinic, P.A., 140 S.W. Broad St., Southern Pines 28387.

This inevitably leads to lack of control and recurrent guilt around compromised value systems. The addict becomes less and less the person he wanted to be, becomes defensive, full of alibis and broken promises, and finally starts to isolate in order to avoid the disappointment that shows in the eyes of the people who matter most.

"Geographical cures," broken homes, progressive self-centered bitterness lead to increased sense of loneliness, depression, anxiety, distortion, loss of social skills. Suicide, or the "fractional suicide" associated with continued drug or alcohol use at this stage of the disease, is often the outcome.

All of this is the same as it was twenty years ago, or for that matter, fifty years ago when I started watering drinks. What *is* new is the epidemic use of drugs (especially cocaine) along with the alcohol. It used to be that the majority of alcoholics could keep up a semblance of normality and stay work-compensated until their late 30s or even longer in some cases. Nowadays, people are routinely addicted to a variety of drugs, and alcohol may only be a second or third choice.

With polyaddiction, or with cocaine being the predominant drug, the downhill slide may take only four years. When cocaine is inhaled directly into the lungs as freebase or as the new inexpensive smokeable "crack," it has the same effect as when taken intravenously. The concentration in the brain reaches a very high peak and the patient immediately wants more to avoid the "crashing phenomenon" when the drug wears off. This leads to a rapid decompensation to the point where hospitalization may occur within the first year due to complete debilitation.

We are now seeing teenagers "wiped out" by cocaine and other street drugs. They show up in the treatment center needing extensive rehabilitation. Most of these adolescents have a strong familial history of alcoholism.

An unforgettable case would be a 19-year-old with multiple arrests for selling "crack" to support his own habit. This included, at times, giving samples to other youngsters, which is often the way children are initiated into cocaine use. The patient had hepatitis, severe Valium and heroin withdrawal on top of a cocaine psychosis and had a strong suicidal urge. It was weeks before the patient stopped drug

seeking and was mentally clear enough to participate in group therapy.

The solutions are for the most part the same. That is, the safe detox from the alcohol or drug concerned. This may include clonidine for narcotics or sometimes tricyclic antidepressants to restore the neurotransmitter levels depleted by cocaine. This is followed by group and one-to-one counseling in support groups with other people recovering from similar problems. Various educational programs are designed to break through the denial and reinforce the abstinence model, providing hope and acceptance. In this open and assuring system, depression is replaced with hope, paranoia gives way to trust and the ability to share with others. Social skills are either relearned or learned for the first time, in the case of adolescents, and the group as a whole can recover from fear and isolation, delusion and despair, despite the fact that not one member in that group could do it on his own.

"Together we could do what none of us could do alone." This provides a heightened spiritual feeling amongst members of the group which often translates into a sense of "God could do for us what we could not do for ourselves."

An old problem, a new problem, an old wisdom with a new application. ■

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The "Crack" in the Emergency Room Door

Daniel G. Sayers, M.D.

In the beginning, Yvonne was just an abstraction on the Emergency Department radio to me. I took the call one afternoon last summer.

"We have a woman in her 30s," the EMT in the field reported. "She's conscious, combative and needs restraints."

On the upper level of a Victorian style house, she had injected herself with crack, the most potent form of cocaine.

When I examined Yvonne, she responded to stimuli only slightly. Pain would cause a withdrawal movement that was incomplete but identifiable. Her irises were thin rims around widely dilated pupils that reacted sluggishly to light. Her breathing was deep and rapid. Barely present at her wrists was a rapid, shallow pulse.

The results of her lab work painted a grim picture. The ECG showed that her heart was severely compromised. Also grim were the numbers that showed moderate kidney failure and liver dysfunction. We were faced with multiple organ failure, changes in mental status and poisoning from crack.

From Section on Emergency Medicine, Department of Surgery, Bowman Gray School of Medicine, Winston-Salem 27103.

Modern medicine offered me few weapons with which to fight Yvonne's problem. I felt helpless and frustrated. We did what we could, but it made no difference in her immediate condition. Within 36 hours of injecting herself, she could no longer breathe without a respirator and her prognosis was grave. Three days later, in the intensive care unit, she died.

Yvonne had been careful with her injection. Her husband told me that the two of them had never used crack before, and that they had little idea of how easy it was to overdose. They had used cocaine several times with no side effects, and they had gradually increased their use of the drug. To them, the world seemed a happier, more exciting place when they used cocaine. It couldn't harm them, they thought, because they were so young and healthy.

Yvonne never had a chance to understand what hit her. She never stood outside herself to see the decline from abuse to addiction to death. Her plight resembled that of the trauma patient who is in a coma from the moment of impact. Her chances of survival, however, were considerably worse.

I found it disconcerting and distressing to deal with the inevitable death of a productive person who abused herself. Yvonne found drugs more fun than reality. Her death reminded me that drug abuse is a disease of our society. Realizing that was bitter medicine. ■

Letters to the Editor

On Dr. Crist's editorial

To the Editor:

It was with great understanding and empathy, as a mental health professional, that I read the editorial in the November issue of the Medical Journal, Sobering Thoughts (Crist et al, 1986;47:511), and the various letters to the editor in response (1987:48;45-7).

In point, the Crist article did lean to an extreme in language and, perhaps, imprudence in statements but, nonetheless, the article speaks factually as a matter of basic truth so far as the Roman Church is concerned. Their influence and direct involvement in efforts to thwart any program of "planned family" are well known. For the good doctors that took exception, I observe that, typically, exception has been taken at words, phrases or a sentence or two. That should not be the issue. One must consider the total overall message of the subject discussed and not the mere words, per se, expressing them.

I would seek to calm their disquiet by the following summation of historical and theological facts. They, then, might consider that a different "response" would be more in keeping with reality.

Space and time constraints here do not permit — nor is it appropriate — a dissertation in philosophy, theology or marital ethics. Let it suffice to say that there is no valid premise in Natural Theology, Scripture nor Divine Revelation to support, much less justify, the Church's position on birth control. Infrequently, reference is made to Scripture (GN. 37:7-10) but even their Biblical experts cannot agree. (That is why there is no "infallible doctrine" on this point.) On their traditional mind-set about sex as a "shameful act," a position to which history alone gives irrefutable testimony (Re: De actis Impudicitiis), there is no argument. Current posture directly flows from that ancient "negative."

A major article by me addressing recent Vatican pronouncements in this regard is being, or will be, printed in leading publications (news) from Bangor (ME) to Raleigh, entitled "In Defense of Birth Control."

Richard G. McDonald, Ph.D.
1304 Lockwood Rd.
Kinston 28501

In appreciation of Dr. Falletta's article

To the Editor:

Dr. John M. Falletta's timely article (1987;48:41-3) on physicians as science writers raises several issues worth further discussion.

Since the only reason we write is to be read, we must learn and use the techniques that will clarify our writing. The problems correctly identified by Dr. Falletta as causing weak medical writing — such as the overuse of passive voice, impersonal pronouns, and jargon — are not unique to the profession. They are universal characteristics of ineffective writing that show up in many substantive fields of science, technology, and business. There is nothing inherently more difficult about medical communication than in any other field.

In many instances, physicians learn to write in the obscure and stilted style by imitating the established model. That is, they actually try to write poorly in what they perceive to be the "medical style." Ironically, medical style manuals ask writers to use the clear, concise language that's characterized by active voice, well-defined terminology, helpful comparisons, concrete descriptions, and appropriate examples.

Several fears and misconceptions underlie the profession's reluctance to fully utilize medical/technical writers:

> Researchers are afraid that the writer will translate a detailed report of difficult work into simple language, which will be equated with simple thinking. But plain language combined into easy-to-read sentences is descriptively powerful prose. It is writing that communicates complex and abstract ideas more clearly than a stilted, rambling, jargon-filled style.
>
> Physicians are afraid of putting people and action into their descriptive accounts. This unreasonable and inexplicable taboo has caused more bad scientific writing than any other stylistic stricture. Writing in the impersonal passive voice is a hoax to create the impression that objective research happens on its own and that the facts speak for themselves. With the shattering of this taboo, writers are able to use I and WE to convey the obvious truth that people do the research and communicate their findings to other people.
>
> Many experts believe that their in-depth knowledge relieves them of the responsibility of focusing on good writing technique. They assume that their expertise will come through despite any writing deficiencies. But brilliant ideas communicated unclearly are perceived by colleagues simply as unclear ideas.

Although physicians commonly refer their patients to qualified medical specialists, they seem hesitant to refer their writing to a qualified specialist. Perhaps they are reluctant to admit that a great medical mind is not necessarily a great communications mind. Or, like some other professionals, perhaps many physicians have yet to realize that writing is indeed a significant communications specialty.

How to use your medical writer:

Insist on having a medical or technical writer placed at your disposal. Then, insist on full participation and utilization of those writers as part of the team of specialists.

Get the maximum benefit out of the medical writers by bringing these specialists into the project at the start of the composition process. Researchers and administrators should demand a full role on the team for the medical writer. Limited quality results come from imposing a limited scope/role on the writer.

The medical writer's positive contribution will naturally be limited when his role is restricted to final draft brush-up or re-write of the article. At this stage, the weaknesses of organization, style, clarity and construction are so endemic that the press of meeting the deadline prevents any more than symptomatic treatment.

Finally, don't sell the medical writer short. Nobody is better qualified to present clear and precise descriptions of a project, either completed or in progress. That is his specialty. The process of explaining the subject to the writer can be a useful step in organizing the researcher's understanding of the material for presentation.

The demand for medical and scientific writers has led to the development of the technical writing emphasis within the English master's degree program at East Carolina University. Technical writing specializations are also available to undergraduates at both ECU and NCSU. Contacts with medical and scientific writing specialists can be made through local chapters of the Society for Technical Communication (STC). Carolina chapter: STC, c/o Dr. Carol Pollard, Department of English, North Carolina State University, Raleigh 27695-8105; East Carolina University student chapter: STC, c/o Dr. Jo Allen, Department of English, East Carolina University, Greenville 27858-4353.

Bert W. Quay, Vice President, ECU-STC
T-4 Dr. Park Apartments
Greenville, 27834

"Sicker and quicker"

To the Editor:

A significant emerging problem facing all physicians today is concerned with the limitations placed on patient care as a result of increasing economic pressures. "Sicker and quicker discharges" are apparently increasing and will inevitably fuel patient complaints and suits. Costs and services are easy to monitor and control but actual quality patient care is difficult to measure accurately. It is essential that physicians avoid inappropriate medical decisions under the pressures of cost containment.

In the past internal peer review procedures emphasized quality care. Presently many external reviews appear to make cost a major concern. As a result medical necessity is now often in conflict with economic efficiency.

In *Wickline v. State* (Cal. Rptr. 661, 1986) a post-op patient developed complications which in the professional opinion of her attending physician required an additional eight days of hospital care. The state sponsored review organization approved only four added days and the attending physician complied. The patient later developed an infection and had her leg amputated. A jury initially awarded the patient $500,000. This was later overturned on the grounds that the law did not permit a state program to be held liable under such circumstances. In this instance it appears to us that the efforts of the state to contain costs interfered with medical treatment but was not held accountable. This case is presently on appeal.

This case may ultimately raise questions of liability for physicians. Utilization review companies, providers, and even employers may ultimately be held liable for patient injuries in similar circumstances.

Perhaps overlooked in the PRO review process which is primarily concerned with appropriateness and the cost-effectivenss of medical care (that is both quality assurance and utilization review) is the fact that a denial letter forwarded to a beneficiary can be used by a disgruntled patient as notice that they may have grounds for a potential lawsuit.

Walter S. Feldman, M.D., J.D., FCLM
6500 Racquet Wood Court
Charlotte, 28226

A comment on Dr. Cuttino's and Drs. Koufman and Thomason's articles

To the Editor:

The first two articles in the June 1987 issue of the Journal (NCMJ 48:303-4 and 307-9) contain inaccuracies in their first sentences. Both Dr. Cuttino in his article on breast imaging techniques and Drs. Koufman and Thomason in their article on laser therapy of bronchogenic carcinoma state that breast cancer is the leading cause of cancer death in women. Until recently, this was true. However, lung cancer has surpassed breast cancer as the leading cause of cancer death in women and it remains the leading cause of cancer death in men.(CA 1987;37:2) This increased death rate has followed by several years the increased incidence of smoking by women.

Physicians in the state of North Carolina should understand this impact of tobacco abuse since our state is a leading producer of this carcinogen.

Michael J. Murray, M.D.
Resident, Radiology Oncology
Duke University Medical Center
P.O. Box 3085
Durham 27710

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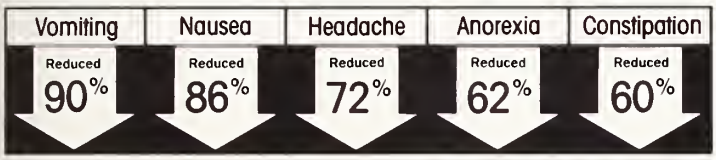
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See the difference in the first week[1]

- **Sleep improvement in 74% of patients after first h.s. dose[2]**
- **Significantly faster relief–62% of total four-week improvement evident in first week versus 44% with amitriptyline alone[1]**
- **Dramatic first-week reduction in somatic complaints[2]**

% Reduction in Somatic Symptoms[2]



- **Only ⅓ the dropout rate due to side effects of amitriptyline alone, although the incidence of side effects is similar[1]**

Caution patients about the combined effects of Limbitrol with alcohol or other CNS depressants and about activities requiring complete mental alertness, such as operating machinery or driving a car. In general, limit dosage to the lowest effective amount in elderly patients.



Protect your decision.
Write "Do not substitute."

In moderate depression and anxiety

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Limbitrol® DS

Each tablet contains 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) Ⓘⓥ

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References: 1. Feighner JP, *et al: Psychopharmacology 61*:217-225, Mar 22, 1979. **2.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

Limbitrol® Ⓘⓥ
Tranquilizer—Antidepressant
Before prescribing, please consult complete product information, a summary of which follows:
Indications: Relief of moderate to severe depression associated with moderate to severe anxiety.
Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use; then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.
Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving).

***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

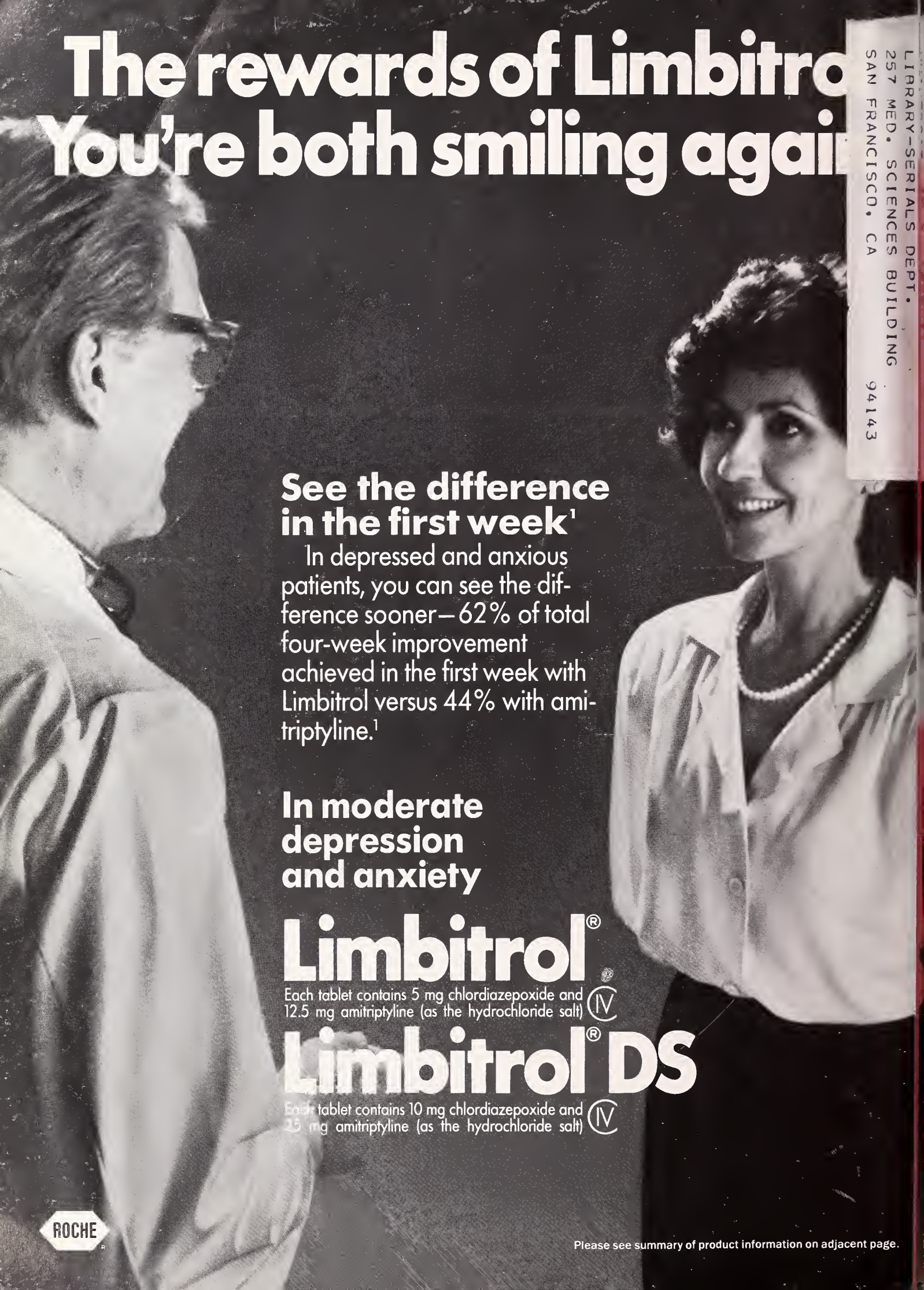
Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage; withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline; symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).
Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady state concentrations of the tricyclic drugs. Concomitant use of Limbitrol with other psychotropic drugs has not been evaluated, sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.
Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.
The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs.
Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.
Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.
Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.
Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.
Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.
Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.
Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.
Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion.
Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.
Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.
Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly. Limbitrol DS (double strength) Tablets, initial dosage of three or four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required. Limbitrol Tablets, initial dosage of three or four tablets daily in divided doses, for patients who do not tolerate higher doses.
How Supplied: *Double strength (DS) Tablets,* white, film-coated, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt), and *Tablets,* blue, film-coated, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt). Available in bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 50.

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In moderate depression and anxiety

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Please see summary of product information on adjacent page.

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1987-1988

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VOLUME 48, NUMBER 8 AUGUST, 1987

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to find
just the
right room.

60,073 patients (90%) who started on INDERAL® LA stayed on INDERAL LA.[1*]

Surprising? Not really.

Because most patients on INDERAL LA (propranolol HCl) don't even know it's working.
A recent double-blind, placebo-controlled, crossover study in 138 hypertensive patients[2] revealed that INDERAL LA has a side effects profile unsurpassed by atenolol or metoprolol—which shows how well-tolerated once-daily INDERAL LA can be.

Sole therapy or concomitant therapy? Fifty-nine percent of the time, INDERAL LA stood on its own.

The patients in the nationwide compliance trial were no different from yours. Generally when the antihypertensive regimen is complicated, compliance may become a problem. So, the effectiveness of INDERAL LA as once-daily monotherapy is a big plus. Of the remaining hypertensives in the program, 36% were treated merely with the addition of a diuretic to INDERAL LA.

For the noncompliant patients in your practice, INDERAL LA may well be the answer.

Almost 20,000 of the patients in the nationwide compliance trial were identified as having been noncompliant with their previous antihypertensive therapy. Their physicians reported that 88% showed improved compliance when placed on once-daily INDERAL LA.

Control, comfort, and compliance

ONCE-DAILY
INDERAL® LA
(PROPRANOLOL HCl) LONG ACTING CAPSULES

Like conventional INDERAL Tablets, INDERAL LA should not be used in the presence of congestive heart failure, sinus bradycardia, cardiogenic shock, heart block greater than first degree, and bronchial asthma.

*After a 30-day trial with INDERAL LA, physicians reported that 90% of the patients would remain on INDERAL LA.

The one you know best keeps looking better

NOW AVAILABLE...
NEW LOW DOSE
INDERAL® LA 60 mg
(PROPRANOLOL HCl) LONG ACTING CAPSULES

Please see next page for brief summary of prescribing information.

The one you know best keeps looking better

BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR.)*

INDERAL® LA brand of propranolol hydrochloride **(Long Acting Capsules)**

DESCRIPTION. INDERAL LA is formulated to provide a sustained release of propranolol hydrochloride. INDERAL LA is available as 60 mg, 80 mg, 120 mg, and 160 mg capsules.

CLINICAL PHARMACOLOGY. INDERAL is a nonselective, beta-adrenergic receptor-blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor-stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta-adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (60, 80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL Tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg-for-mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension; it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock; 2) sinus bradycardia and greater than first-degree block; 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.



WARNINGS. CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following *abrupt* discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned, the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, eg, dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta blockers should be used with caution in diabetic patients if a beta-blocking agent is required. Beta blockers may mask tachycardia occurring with hypoglycemia, but other manifestations such as dizziness and sweating may not be significantly affected. Following insulin-induced hypoglycemia, propranolol may cause a delay in the recovery of blood glucose to normal levels.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol may change thyroid function tests, increasing T_4 and reverse T_3, and decreasing T_3.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case, this resulted after an initial dose of 5 mg propranolol.

PRECAUTIONS. GENERAL: Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

CLINICAL LABORATORY TESTS: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Caution should be exercised when patients receiving a beta blocker are administered a calcium-channel-blocking drug, especially intravenous verapamil, for both agents may depress myocardial contractility or atrioventricular conduction. On rare occasions, the concomitant intravenous use of a beta blocker and verapamil has resulted in serious adverse reactions especially in patients with severe cardiomyopathy, congestive heart failure or recent myocardial infarction.

Aluminum hydroxide gel greatly reduces intestinal absorption of propranolol.

Ethanol slows the rate of absorption of propranolol.

Phenytoin, phenobarbitone, and *rifampin* accelerate propranolol clearance.

Chlorpromazine, when used concomitantly with propranolol, results in increased plasma levels of both drugs.

Antipyrine and *lidocaine* have reduced clearance when used concomitantly with propranolol.

Thyroxine may result in a lower than expected T_3 concentration when used concomitantly with propranolol.

Cimetidine decreases the hepatic metabolism of propranolol, delaying elimination and increasing blood levels.

Theophylline clearance is reduced when used concomitantly with propranolol.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

PREGNANCY: Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose. There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

NURSING MOTHERS: INDERAL is excreted in human milk. Caution should be exercised when INDERAL (propranolol HCl) is administered to a nursing woman.

PEDIATRIC USE: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: Bradycardia; congestive heart failure; intensification of AV block; hypotension; paresthesia of hands; thrombocytopenic purpura; arterial insufficiency, usually of the Raynaud type.

Central Nervous System: Light-headedness; mental depression manifested by insomnia, lassitude, weakness, fatigue; reversible mental depression progressing to catatonia; visual disturbances; hallucinations, vivid dreams; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics. For immediate formulations, fatigue, lethargy, and vivid dreams appear dose related.

Gastrointestinal: Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: Pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory: Bronchospasm.

Hematologic: Agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: Alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily. If patients are switched from INDERAL Tablets to INDERAL LA Capsules, care should be taken to assure that the desired therapeutic effect is maintained. INDERAL LA should not be considered a simple mg-for-mg substitute for INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitration may be necessary, especially to maintain effectiveness at the end of the 24-hour dosing interval.

HYPERTENSION—*Dosage must be individualized.* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood-pressure control is achieved. The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage of 640 mg may be required. The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three- to seven-day intervals until optimal response is obtained. Although individual patients may respond at any dosage level, the average optimal dosage appears to be 160 mg once daily. In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

MIGRAINE—*Dosage must be individualized.* The initial oral dose is 80 mg INDERAL LA once daily. The usual effective dose range is 160-240 mg once daily. The dosage may be increased gradually to achieve optimal migraine prophylaxis. If a satisfactory response is not obtained within four to six weeks after reaching the maximal dose, INDERAL LA therapy should be discontinued. It may be advisable to withdraw the drug gradually over a period of several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use.

*The appearance of these capsules is a registered trademark of Ayerst Laboratories.

REFERENCES:

1. INDERAL LA National Compliance Evaluation Program. Data on file, Ayerst Laboratories.
2. Ravid M, Lang R, Jutrin I: The relative antihypertensive potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily. *Arch Intern Med* 1985; 145:1321-1323.

1R7119/887

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**Alphabetical Listings
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Roster information correct according to North Carolina Medical Society records on membership on June 30, 1987.

The roster information of the members of the State Medical Society contained in this publication may not be used as a general mailing list without specific authority from the State Society.

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CORTISPORIN® OTIC Suspension Sterile (Polymyxin B-Neomycin-Hydrocortisone) **Description:** Each cc contains: Aerosporin® (Polymyxin B Sulfate) 10,000 units. Neomycin sulfate (equivalent to 3.5 mg neomycin base) 5 mg. Hydrocortisone 10 mg (1%). The vehicle contains the inactive ingredients cetyl alcohol, propylene glycol, polysorbate 80, water for injection and thimerosal (preservative) 0.01%. **Indications:** For the treatment of superficial bacterial infections of the external auditory canal caused by organisms susceptible to the action of the antibiotics, and for the treatment of infections of mastoidectomy and fenestration cavities caused by organisms susceptible to the antibiotics. **Precautions:** This drug should be used with care in cases of perforated eardrum and in long-standing cases of chronic otitis media because of the possibility of ototoxicity caused by neomycin. **CORTISPORIN® OTIC Solution** Sterile (Polymyxin B-Neomycin-Hydrocortisone) **Description:** Each cc contains: Aerosporin® (Polymyxin B Sulfate) 10,000 units. Neomycin sulfate (equivalent to 3.5 mg neomycin base) 5 mg. Hydrocortisone 10 mg (1%). The vehicle contains the inactive ingredients cupric sulfate, glycerin, hydrochloric acid, propylene glycol, water for injection and potassium metabisulfite (preservative) 0.1%. **Indications:** For the treatment of superficial bacterial infections of the external auditory canal caused by organisms susceptible to the action of the antibiotics. **Warning:** Contains potassium metabisulfite, a sulfite that may cause allergic-type reactions (e.g., hives, itching, wheezing, anaphylaxis) in certain susceptible persons. Although the overall prevalence of sulfite sensitivity in the general population is probably low, it is seen more frequently in asthmatics or in atopic nonasthmatic persons. **Precautions:** This drug should be used with care when the integrity of the tympanic membrane is in question because of the possibility of ototoxicity caused by neomycin. **Adverse Reactions:** Stinging and burning have been reported when this drug has gained access to the middle ear. **Contraindications, Warnings, Precautions and Adverse Reactions Common to Both Products. Contraindications:** These products are contraindicated in those individuals who have shown hypersensitivity to any of the components, and in herpes simplex, vaccinia and varicella. **Warnings:** As with other antibiotic preparations, prolonged treatment may result in overgrowth of nonsusceptible organisms and fungi. If the infection is not improved after one week, cultures and susceptibility tests should be repeated to verify the identity of the organism and to determine whether therapy should be changed. When using neomycin-containing products to control secondary infection in the chronic dermatoses, such as chronic otitis externa, it should be borne in mind that the skin in these conditions is more liable than is normal skin to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as a failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter. **Precautions:** If sensitization or irritation occurs, medication should be discontinued promptly. Patients who prefer to warm the medication before using should be cautioned against heating the solution above body temperature, in order to avoid loss of potency. Treatment should not be continued for longer than ten days. Allergic cross-reactions may occur which could prevent the use of any or all the following antibiotics for the treatment of future infections: kanamycin, paromomycin, streptomycin, and possibly gentamicin. **Adverse Reactions:** Neomycin is a not uncommon cutaneous sensitizer. There are articles in the current literature that indicate an increase in the prevalence of persons sensitive to neomycin.

*Caution: If perforation of the eardrum exists, specify Cortisporin Otic *Suspension* (this drug should be used with care in cases of perforated eardrum).

86COR6

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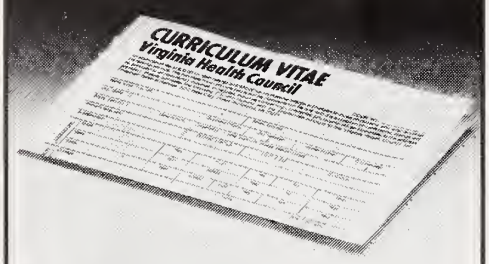
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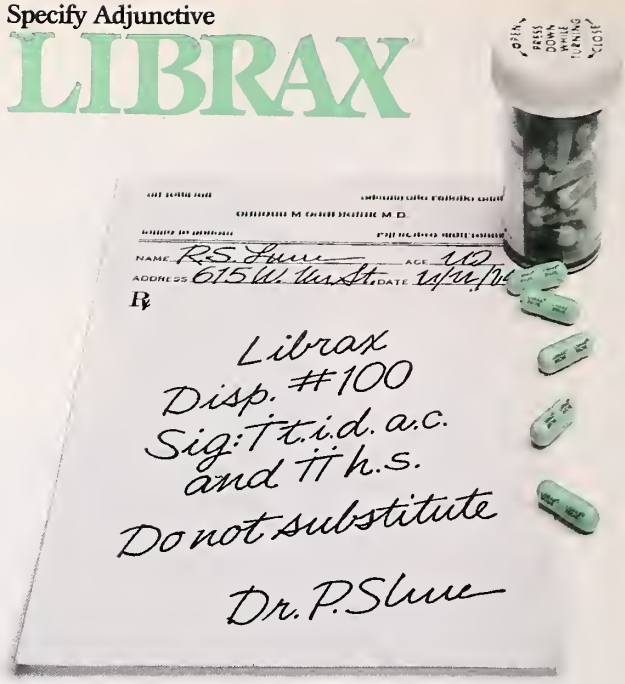
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1851 E. Third St., Charlotte 28204

7. **Rehabilitation Medicine Committee (IV-7)** — No. 40
Angus M. McBryde, Jr., M.D., **Chairman** (704-372-0743)
1012 Kings Dr., Ste. 101, Charlotte 28283

V. PUBLIC AFFAIRS COMMISSION

Elizabeth P. Kanof, M.D., **Commissioner** (919-878-0310)
3400 Executive Drive, Raleigh 27609

Committee Listing

1. **Communications Committee (V-1)** — No. 9
Charles L. Garrett, Jr., M.D., **Chairman** (919-353-3498)
Onslow Memorial Hospital, Jacksonville 28540

2. **Disaster & Emergency Medical Care Committee (V-2)** — No. 15
Joseph A. Moylan, M.D., **Chairman** (919-684-2237)
Duke Medical Center, Box 3947, Durham 27710

3. **Eye Care & Eye Bank Committee (V-3)** — No. 17
Edward M. Hedgpeth, Jr., M.D., **Chairman** (919-682-9341)
1110 W. Main St., Durham 27701

4. **Legislation Committee (V-4)** — No. 24
H. David Bruton, M.D., **Chairman** (919-692-2444)
195 W. Illinois Ave., Southern Pines 28387

5. **Medical Aspects of Sports Committee (V-5)** — No. 27
Frank W. Clippinger, Jr., M.D., **Chairman** (919-684-4229)
Duke Medical Center, Box 3935, Durham 27710

6. **Medical-Legal Committee (V-6)** — No. 29
Joseph M. Jenkins, M.D., **Chairman** (919-946-0136)
604 E. 12th St., Washington 27889

VI. PUBLIC SERVICE COMMISSION

Thad B. Wester, M.D., **Commissioner** (919-733-3446)
1001-101 Brighthurst Dr., Raleigh 27601

Committee Listing

1. **Child Health Committee (VI-1)** — No. 7
Charles K. Scott, M.D., **Chairman** (919-228-8316)
530 W. Webb Ave., Burlington 27215

2. **Drug Abuse & Pharmacy Committee (VI-2)** — No. 16
Ronald B. Mack, M.D., **Chairman** (919-727-8108)
2516 Woodberry Dr., Winston-Salem 27106

3. **Maternal Health Committee (VI-3)** — No. 25
Robert G. Brame, M.D., **Chairman** (919-551-4983)
1729 Forest Hill Dr., Greenville 27858

4. **Mental Health Committee (VI-4)** — No. 32
Nicholas E. Stratas, M.D., **Chairman** (919-787-7125)
3900 Browning Pl., Ste. 201, Raleigh 27609

5. **Physicians' Health & Effectiveness Committee (VI-5)** — No. 35
Theodore R. Clark, M.D., **Chairman** (919-692-6471)
P.O. Box 56, Southern Pines 28387

COMMITTEES NOT ASSIGNED TO A COMMISSION

COUNCIL ON REVIEW & DEVELOPMENT

Thomas B. Dameron, Jr., M.D., **Chairman** (919-781-5600)
P.O. Box 10707, Raleigh 27605

COORDINATING COUNCIL OF SPECIALTY SOCIETIES

Bertram W. Coffer, M.D., **Chairman** (919-781-7420)
P.O. Box 18139, Raleigh 27619

MEDIATION COMMITTEE

Marshall S. Redding, M.D., **Chairman** (919-335-5446)
1142 N. Road St., Elizabeth City 27909
Kenneth E. Cosgrove, M.D., **Secretary** (704-692-2231)
510 7th Ave., W., Hendersonville 28739

NOMINATING COMMITTEE

Gregory G. Holthusen, M.D., **Chairman** (919-768-1270)
P.O. Box 25007, Winston-Salem 27114

1. **Aging Committee III-1 (12) (6 Consultants)**
James S. Parsons, M.D.[92] (IM) (919-832-5125) **Chairman**
704 W. Jones St., Raleigh 27603
Samuel T. Bickley, M.D.[40] (FP) (919-885-2118)
P.O. Box 5168, High Point 27262
Monroe T. Gilmour, M.D.[60] (IM) (704-375-0287)
1300 Baxter St., Ste. 163, Charlotte 28204
H. Ronald Gollberg, M.D.[11] (P/GER) (704-252-1421)
445 Biltmore Center, Ste. 304, Asheville 28801
Joanne E. Helppie, M.D.[45] (IM) (919-692-2232)
510 7th Ave., W., Hendersonville 28739
Harold Kallman, M.D.[74] (FP/GER) (919-551-2597)
ECU, Dept. of Family Medicine, Greenville 27834
Jonnie H. McLeod, M.D.[60] (PD) (704-597-2171)
Dept. of Human Services, UNC Charlotte Station, Charlotte 28223
T. Art Payne[32] (ST) (UNC) (919-929-4291)
405-A Coolridge St., Chapel Hill 27514
Rafael C. Sanchez, M.D.[74] (FP/ADL) (919-551-2608)
P.O. Box 1846, Greenville 27835
Deepak Sawhney[32] (ST) (UNC) (919-968-1747)
4 Gooseneck Circle, Chapel Hill 27514
Robert J. Sullivan, Jr., M.D.[32] (IM/FP) (919-684-2248)
Duke Medical Center, Box 3003, Durham 27710
Thomas R. White, M.D.[60] (FP) (704-542-9227)
10724 Park Rd., Charlotte 28210

Consultants:
Harvey J. Cohen, M.D., Director (919-684-3654)
Center on Aging & Human Development, Duke Medical Center Box 3003, Durham 27710
Mrs. Edwin Martinat (Martha) (Auxiliary) (919-678-0339)
120 Sherwood Forest Rd., Winston-Salem 27104
Elaine Stoops, Assistant Secretary (919-733-3983)
NC Division of Aging, 708 Hillsborough St., Raleigh 27607
Nancy Tintle, Associate Director (704-334-7656)
Council on Health Costs, 730 E. Trade St., Ste. 1020, Charlotte 28202
Mrs. Russell J. Sacco (Pam) (Auxiliary Past-President) (704-693-9595)
P.O. Box 1086, Hendersonville 28793
Judith C. Wright (Health Director) (919-793-3023)
Hwy. 45, N., P.O. Box 396, Plymouth 27962

2. **Arrangements Committee III-2 (13)**
Edna M. Hoffman, M.D.[26] (OBG) (919-485-4755) **Chairman**
348 Valley Rd., Fayetteville 28305
Eugene M. Bozymski, M.D.[32] (GE/IM) (919-966-2511)
UNC, Dept. of Medicine, 324 Clinical Science Bldg., 229-H, Chapel Hill 27514
Don C. Chaplin, M.D.[1] (IM/CD) (919-227-3621)
Kernodle Clinic, 316 Graham-Hopedale Rd., Burlington 27215
William B. Costenbader, Jr., M.D.[11] (OTO/HNS) (704-254-3517)
131 McDowell St., Asheville 28801
Margaret N. Harker, M.D.[16] (GP) (919-247-3476)
Drawer 897, Morehead City 28557
T. Reginald Harris, M.D.[23] (PUD/IM) (Speaker) (704-482-1482)
808 Schenck St., Shelby 28150
Robert S. Lackey, M.D.[60] (R/FP) (704-365-0343)
2118 Pinewood Cir., Charlotte 28211
Willis E. Mease, M.D.[67] (FP) (919-324-3105)
209 S. Church St., Richlands 28574
Mrs. Douglas L. Ritch (Helen) (Auxiliary) (704-542-9554)
3732 Table Rock Rd., Charlotte 28226
Peter W. Robie, M.D.[34] (IM) (919-748-2085)
300 S. Hawthorne Rd., Winston-Salem 27103

Ernest B. Spangler, M.D.[41] (R)(President-Elect) (919-854-6546)
Drawer X-3, Greensboro 27402
Mrs. Roy A. Weaver (Anita) (Auxiliary) (919-868-2383)
432 Brightwood Dr., Fayetteville 28303
William B. Wood, M.D.[32] (IM/PUD) (919-962-2118)
UNC, 231 MacNider Bldg., Chapel Hill 27514

Audit Committee I-1 (5)
William R. Hudson, M.D.[32] (OTO) (919-684-3834) **Chairman**
Duke Medical Center, Durham 27710
R. Jackson Blackley, M.D.[92] (P/GPM) (919-733-6523)
325 N. Salisbury St., Raleigh 27611
Lawrence M. Cutchin, M.D.[33] (IM/PD) (919-823-1607)
Rt. 3, Box 325, Tarboro 27886
David M. Fajgenbaum, M.D.[92] (ORS) (919-872-5296)
3410 Executive Dr., Raleigh 27619

Auxiliary Advisory Committee III-3 (5) (4 Consultants)
Charles L. Nance, Jr., M.D.[65] (ORS) (919-763-7344) **Chairman**
2001 S. 17th St., Wilmington 28401
Gloria F. Graham, M.D.[98] (D) (919-291-5600)
702 Broad St., Wilson 27893
Elizabeth P. Kanof, M.D.[92] (D) (919-878-0310)
3400 Executive Dr., Raleigh 27609
Charles J. Niemeyer, M.D.[36] (ORS) (704-865-6487)
902 Cox Rd., Ste. A, Gastonia 28052
Ralph E. Snyder, M.D.[63] (IM) (919-851-2955)
P.O. Box 37309, Raleigh 27627

Consultants:
Mrs. Hugh H. Hayes (Imogene) (Auxiliary First Vice-President) (704-366-5621)
5033 Gorham Dr., Charlotte 28226
Mrs. Charles J. Niemeyer (Carolyn) (Auxiliary President-Elect) (704-867-8180)
3421 Country Club Dr., Gastonia 28054
Mrs. Russell J. Sacco (Pam) (Auxiliary Past President) (704-693-9595)
P.O. Box 1086, Hendersonville 28793
Mrs. Ralph E. Snyder (Jackie) (Auxiliary President) (919-949-3166)
378-A Pine Ridge Dr., Whispering Pines 28327

Bioethics Committee II-3 (20) (8 Consultants)
George C. Barrett, M.D.[60] (R) (704-371-4056) **Chairman**
958 Cherokee Rd., Charlotte 28207
Linda E. Brinkman[74] (ST) (ECU) (919-355-6121)
10 Palmetto Pl., Greenville 27834
Robert S. Carnes, III, M.D.[34] (AN) (919-748-2927)
300 S. Hawthorne Rd., Winston-Salem 27103
Gloria F. Graham, M.D.[98] (D) (919-291-5600)
702 Broad St., Wilson 27893
Donald M. Hayes, M.D.[41] (OM/IM) (919-379-4610)
3330 W. Friendly Ave., Greensboro 27410
Jack Hughes, M.D.[32] (U) (919-286-1297)
923 Broad St., Durham 27705
Tracy J. T. Latz[34] (ST) (BG) (919-723-5305)
452 Corona St., Winston-Salem 27103
Allen J. McBride, M.D.[32] (FP/GER) (919-489-7431)
P.O. Box 2291, Durham 27702
John L. McCain, M.D.[98] (RHU/IM) (919-291-7001)
Wilson Clinic, Wilson 27893
Assad Meymandi, M.D.[26] (P/N) (919-485-6166)
1212 Walter Reed Rd., Fayetteville 28304
Reggie D. Parlier[32] (ST) (DUKE) (919-479-5559)
1344 New Castle Rd., B-2, Durham 27704
T. Art Payne[32] (ST) (UNC) (919-929-4291)
405-A Coolridge St., Chapel Hill 27514
C. Glenn Pickard, Jr., M.D.[32] (IM) (919-966-2276)
N.C. Memorial Hospital, Chapel Hill 27514
Mary Ann Rathbun, M.D.[60] (NPM/PD) (704-338-3156)
P.O. Box 32861, Charlotte 28232
Cecil D. Rhodes, Jr., M.D.[98] (IM/A)
P.O. Box 27894-0309, Wilson 27894
Louis deS. Shaffner, M.D.[34] (PDS/GS) (919-725-1503)
740 N. Pine Valley Rd., Winston-Salem 27106
Harold R. Silberman, M.D.[32] (EM/IM) (919-684-5537)
Duke Medical Center, Box 3975-M, Durham 27710
J. Dale Simmons, M.D.[86] (PH/FP) (919-374-2131)
P.O. Box 1062, Dobson 27017
Donald D. Smith, M.D.[41] (PD) (919-379-4025)
1200 N. Elm St., Greensboro 27401
Eugene A. Stead, Jr., M.D.[39] (IM/CD) (919-684-6587)
Rt. 1, Box 194, Bullock 27507

Consultants:
Rev. James Travis, Director (919-684-3586)
Chaplain Service, Duke Medical Center, Box 3812, Durham 27710
Larry Churchill, Ph.D. (919-962-1136)
UNC, Dept. of Social & Administrative Medicine, Chapel Hill 27514
Arlene J. Diosegy, J.D. (919-383-0355)
P.O. Box 3079, Durham 27705
Allen Dyer, M.D. (919-684-2415)
Duke Hospital, Box 3838, Durham 27710
Samuel R. Leager, Esq. (919-821-1150)
P.O. Box 10096, Raleigh 27625
D. Scott Lindsay, Chaplain (704-371-4168)
Presbyterian Hospital, P.O. Box 33549, Charlotte 28233
Mrs. Charles J. Niemeyer (Carolyn) (Auxiliary President-Elect) (704-867-8180)
3421 County Club Dr., Gastonia 28054
Mrs. Ralph E. Snyder (Jackie) (Auxiliary President) (919-949-3166)
378-A Pine Ridge Dr., Whispering Pines 28327

6. Cancer Committee II-1 (26) (Legal — 1 ea. Congressional District) (1 Consultant)
M. Robert Cooper, M.D.[34] (ON/HEM) (5th) **Chairman** (919-748-4300)
300 S. Hawthorne Rd., Winston-Salem 27103
Ray G. Silverthorne, M.D.[7] (OBG) (1st) (919-946-5168)
Rt. 2, Box 35, Washington 27889
Walter E. Davis, M.D.[32] (ON/HEM) (2nd) (919-383-5531)
1830 Hillandale Rd., Durham 27705
Leonard S. Woodall, M.D.[51] (OBG) (3rd) (919-934-7696)
711 North Street, Smithfield 27577
Kenneth S. Karb, M.D.[41] (ON/IM) (6th) (919-272-2141)
1007 Professional Village, Greensboro 27401
James E. Wortman, M.D.[65] (ON/HEM) (7th) (919-763-5182)
715 Forest Hills Dr., Wilmington 28403
Richard W. Martin, M.D.[80] (GS) (8th) (704-637-2750)
P.O. Box 1665, Salisbury 28144
Samuel L. Orr, M.D.[60] (PTH) (9th) (704-338-2251)
Charlotte Mem. Hospital, P.O. Box 32861, Charlotte 28232
Avery W. McMurry, M.D.[23] (GS) (10th) (704-482-6359)
207 Lee St., Shelby 28150
John F. Tannehill, M.D.[44] (OTO/HNS) (11th) (704-452-1406)
120 Hospital Dr., Clyde 28721
Rolland J. Barrett, II, M.D.[34] (GYN/ON) (919-748-2011)
228 Heatherton Way, Winston-Salem 27103
Daniel L. Crocker, M.D.[64] (ON/HEM) (919-443-9084)
100 Nash Med. Arts Mall, Rocky Mount 27801
E. Bruce Elliston, M.D.[11] (FP) (704-258-8681)
206 Ashland Ave., Asheville 28801
Susan E. Epstein[34] (ST)(BG)
1815 Brantley St., Winston-Salem 27104
Jon P. Gockerman, M.D.[32] (ON/HEM) (919-684-6283)
Duke Medical Center, Box 3877, Durham 27710
Herman A. Godwin, Jr., M.D.[60] (HEM/IM) (704-373-0700)
2711 Randolph Rd., Ste. 100, Charlotte 28207
Margaret N. Harker, M.D.[16] (GP) (919-247-3476)
P.O. Drawer 897, Morehead City 28557
Donald M. Hayes, M.D.[41] (OM/IM) (919-379-4610)
3330 W. Friendly Ave., Greensboro 27410
Vernon W. Jobson, M.D.[34] (GYN/ON) (919-765-1464)
1901 S. Hawthrone Rd., Ste. 360, Winston-Salem 27103
Richard B. Marshall, M.D.[34] (PTH) (919-748-2626)
236 Stanaford Rd., Winston-Salem 27104
Robert C. Moffatt, M.D.[11] (ON/GS) (704-258-2464)
30 Victoria Rd., Asheville 28801
Barton R. Paschal, M.D.[11] (ON/HEM) (704-254-8232)
1 Doctors Dr., Asheville 28801
Karen G. Seaton[32] (ST) (UNC) (919-933-9515)
59 Polks Landing, Chapel Hill 27514

Charles L. Spurr, M.D.[34] (ON/HEM) (919-748-2946)
300 S. Hawthorne Rd., Winston-Salem 27103
Stuart K. Todd, M.D.[64] (GS) (919-443-9084)
100 Nash Medical Arts Mall, Rocky Mt. 27801

Consultant:
Judith C. Wright (Health Director) (919-793-3023)
Hwy. 45, N., P.O. Box 396, Plymouth 27962

7. Child Health Committee VI-1 (17) (1 Consultant)
Charles K. Scott, M.D.[1] (PD/ADL) (919-228-8316) **Chairman**
530 W. Webb Ave., Burlington 27215
Marshall E. Agner, M.D.[36] (FP) (704-435-6058)
609 E. Academy St., Cherryville 28021
John E. Eisele, M.D.[74] (PD/PM) (919-551-4440)
P.O. Box 6028, Greenville 27834
Gerald W. Fernald, M.D.[32] (PD/ID) (919-966-2069)
N.C. Memorial Hospital, Chapel Hill 27514
Thomas E. Frothingham, M.D.[32] (PD/ID) (919-684-6870)
Duke Medical Center, Box 3937, Durham 27710
R. McPhail Herring, Jr., M.D.[82] (PD) (919-592-6011)
403 Fairview St., Clinton 28328
Thomas G. Irons, M.D.[74] (PD) (919-551-2535)
ECU, Dept. of Pediatrics, Greenville 27834
Jean B. F. Kenny, M.D.[74] (PD/ID) (919-551-2511)
ECU, Dept. of Ped., Greenville 27858
Charlie C. Miraglia[34] (ST) (BG) (919-723-2299)
1057 S. Hawthorne Rd., Winston-Salem 27103
Douglas D. Sheets, M.D.[81] (OBG) (704-287-7383)
Tryon Rd., P.O. Box 1208, Rutherfordton 28139
Jimmy L. Simon, M.D.[34] (PD) (919-748-4431)
Bowman Gray, Dept. of Pediatrics, Winston-Salem 27103
Suzanne P. Starling[74] (ST) (ECU) (919-756-8520)
Rt. 2, Box 344, Winterville 28590
Rose Mary Stocks[74] (ST) (ECU) (919-758-5864)
406-B S. Harding St., Greenville 27834
Thad B. Wester, M.D.[78] (PD/PH) (919-733-3446)
1001-101 Brighthurst Dr., Raleigh 27601
Jerry W. Wiley, M.D.[92] (PD) (919-733-2833)
4700 Westminster Dr., Raleigh 27604
E. Brooks Wilkins, M.D.[92] (FP) (919-782-0146)
6204 Gainsborough Dr., Raleigh 27612

Consultant:
Eugene C. Hines, Jr. (Health Director) (919-592-1131)
County Complex, Rowan Rd., Clinton 28328

8. Children's Special Health Services Advisory Committee IV-1 (18)
Angus M. McBryde, Jr., M.D.[60] (ORS) (704-372-0743) **Chairman**
1012 Kings Dr., Ste. 101, Charlotte 28283
Page Anderson, M.D.[32] (PDC) (919-684-2538)
Duke Medical Center, Box 3218, Durham 27710
Ralph W. Coonrad, M.D.[32] (ORS/HS) (919-286-1249)
1828 Hillandale Rd., Durham 27705
William B. Costenbader, Jr., M.D.[11] (OTO/HNS) (704-254-3517)
131 McDowell St., Asheville 28801
Michael F. Durfee, M.D.[92] (ADL/PD) (919-828-0035)
619 Oberlin Rd., Raleigh 27605
Howard C. Filston, M.D.[32] (PDS/GS) (919-684-3478)
Duke Medical Center, Box 3815, Durham 27710
Robert I. Kohut, M.D.[34] (OTO/HNS) (919-748-4161)
300 S. Hawthorne Rd., Winston-Salem 27103
Ted Kushnick, M.D.[74] (PD) (919-551-2529)
ECU School of Medicine, Greenville 27834
Joseph T. Liverman, M.D.[51] (FP) (919-934-5149)
706 Wilkins St., Smithfield 27577
C. Scott McLanahan, M.D.[60] (NS) (704-376-1605)
1010 Edgehill Rd., N., Charlotte 28207
William G. Moorefield, Jr., M.D.[60] (ORS) (704-377-0351)
120 Providence Rd., Charlotte 28207
Hugh D. Peterson, M.D.[32] (PS) (919-966-3693)
UNC, Burnett-Womack Bldg., Chapel Hill 27514
Frank E. Pollock, M.D.[34] (ORS) (919-768-1270)
P.O. Box 25007, Winston-Salem 27114
Robert P. Schwartz, M.D.[60] (PD/PDE)(704-338-3156)
P.O. Box 32861, Charlotte 28232
Douglas G. Smith[32] (ST) (UNC) (919-933-7719)
207 Conner Dr., #17, Chapel Hill 27514
T. Reed Underhill, M.D.[25] (U) (919-633-2712)
800 Hospital Dr., Ste. 4, New Bern 28560
Kelley Wallace, Jr., M.D.[7] (PS/GS) (919-949-2223)
330 N. Market St., Chocowinity 27817
Thad B. Wester, M.D.[78] (PD/PH) (919-733-3446)
1001-101 Brighthurst Dr., Raleigh 27601

9. Communications Committee V-1 (14) (7 Consultants)
Charles L. Garrett, Jr., M.D.[67] (PTH/FOP) **Chairman** (919-353-3498)
Onslow Memorial Hospital, Jacksonville 28540
Sidney L. Gulledge, III, M.D.[92] (OPH) (919-878-0220)
3400 Executive Dr., Ste. 101, Raleigh 27609
Edna M. Hoffman, M.D.[26] (OBG) (919-485-4755)
348 Valley Rd., Fayetteville 28305
Nelson N. Howell, M.D.[60] (OTO/HNS) (704-365-0711)
3535 Randolph Rd., Charlotte 28211
Charles W. Lapp, M.D.[92] (IM/PD) (919-878-0900)
3400 Executive Dr., Raleigh 27609
O. Aiken Mays, M.D.[96] (PH) (919-731-1000)
408 Taylor Pl., Goldsboro 27530
Assad Meymandi, M.D.[26] (P/N) (919-485-6166)
1212 Walter Reed Rd., Fayetteville 28304
W. Donald Moore, M.D.[43] (FP) (919-897-6423)
P.O. Box 280, Coats 27521
Douglas D. Sheets, M.D.[81] (OBG) (704-287-7383)
Tryon Road, P.O. Box 1208, Rutherfordton 28139
J. Ross Shuping, M.D.[74] (N) (919-752-4848)
425 Stantonsburg Rd., Greenville 27834
J. Dale Simmons, M.D.[86] (PH/FP) (919-374-2131)
P.O. Box 1062, Dobson 27017
Shahane R. Taylor, Jr., M.D.[41] (OPH) (919-274-4626)
348 N. Elm St., Greensboro 27401
Paul R. Woodard, M.D.[92] (AN) (919-755-8000)
1825 St. Mary's St., Raleigh 27608
William J. Wortman, Jr., M.D.[60] (GYN/OBS) (704-376-1580)
2711 Randolph Rd., Ste. 309, Charlotte 28207

Consultants:
Mrs. C. Allen Eure (Susan) (Auxiliary, Executive Editor, Tandem) (919-782-8844)
3400 Octoea St., Raleigh 27607
Mrs. Robert N. Harper, Jr. (Denise) (Auxiliary, Advertising Manager, Tandem) (919-782-2423)
305 Hillandale Dr., Raleigh 27609
Mrs. Charles J. Neimeyer (Carolyn) (Auxiliary President-Elect) (704-867-8180)
3421 Country Club Dr., Gastonia 28054
Mrs. Edward W. Schnell (Jan) (Auxiliary Communications Com. Chmn.) (919-295-3035)
3 Thunderbird Circle, Pinehurst 28374
Mrs. Ralph E. Snyder (Jackie) (Auxiliary President) (919-949-3166)
378-A Pine Ridge Dr., Whispering Pines 28327
Mrs. Martha Waters (919-832-7421)
Epley Associates, P.O. Box 1801, Raleigh 27602
Mrs. Pat Williamson (919-733-2775)
Dept. of Human Resources, 325 N. Salisbury St., Raleigh 27611

10. Constitution & Bylaws Committee III-4 (5) (2 Consultants)
Howard E. Strawcutter, M.D.[78] (U) (919-738-6441) **Chairman**
P.O. Box 1408, Lumberton 28359
John B. Anderson, Jr., M.D.[39] (FP) (919-693-3972)
1018 College St., Oxford 27565
S. Clayton Callaway, Jr., M.D.[65] (OTO) (919-762-8754)
2311 Delaney Rd., Wilmington 28403
John T. Dees, M.D.[65] (FP/PH) (919-259-2161) (Secretary)
P.O. Box 815, Burgaw 28425
T. Reginald Harris, M.D.[23] (PUD/IM) (704-482-1482) (Speaker)
808 Schenck St., Shelby 28150

Consultants:
Charles L. Garrett, Jr., M.D.[67] (PTH/FOP) (919-353-3498)
Onslow Memorial Hospital, Jacksonville 28540

Hal M. Stuart, M.D.[86] (FP) (919-835-3613)
180-C Parkwood Dr., Elkin 28621
Harry H. Summerlin, Jr., M.D.[11] (FP) (704-298-3090)
944 Tunnel Rd., Asheville 28805

Coordinating Council of Specialty Societies (20)
Bertram W. Coffer, M.D.[92] (AN) (919-781-7420) **Chairman**
P.O. Box 18139, Raleigh 27619
Robert E. Miller, M.D.[60] (ORS) (704-373-0544) **Vice-Chairman**
1822 Brunswick Ave., Charlotte 28207
Edward S. Beason, M.D.[34] (PS) (919-765-3540)
1732 S. Hawthorne Rd., Winston-Salem 27103
Jack W. Bonner, III, M.D.[11] (P) (704-254-3201)
Highland Hospital, P.O. Box 1101, Asheville 28802
Stephen C. Boone, M.D.[92] (NS/EM) (919-832-4448)
P.O. Box 14027, Raleigh 27620
J. Ronald Edwards, M.D.[92] (PTH) (919-755-8260)
Rt. 7, Box 210-E, Raleigh 27614
Albert L. Ehle, M.D.[32] (N) (919-966-3707)
UNC, 751 Burnett-Womack Bldg., Chapel Hill 27514
C. Allan Eure, M.D.[92] (IM) (919-782-1806)
3521 Haworth Dr., Raleigh 27609
Douglas G. Freeman, Jr., M.D.[92] (RHU/AI) (919-781-9633)
3831 Merton Dr., Raleigh 27609
Joel S. Goodwin, M.D.[80] (OBG) (704-636-9270)
315 Mocksville Ave., Salisbury 28144
Lloyd H. Harrison, M.D.[34] (U) (919-748-4131)
300 S. Hawthorne Rd., Winston-Salem 27103
Thomas H. Hunt, M.D.[34] (DR/NR) (919-760-5874)
3155 Maplewood Ave., Winston-Salem 27103
Patrick D. Kenan, M.D.[32] (OTO) (919-684-5238)
Duke Medical Center, Division of OTO, Durham 27710
R. Wade Markham, M.D.[40] (D) (919-887-3195)
624 Quaker Lane, Ste. 302-B, High Point 27262
George Podgorny, M.D.[34] (EM/GS) (919-727-1161)
2115 Georgia Ave., Winston-Salem 27104
Jimmy L. Rhyne, M.D.[92] (PH/PD) (919-733-7791)
Div. of Health Services, P.O. Box 2091, Raleigh 27602
Robert P. Schwartz, M.D.[60] (PD/PDE) (704-338-3156)
P.O. Box 32861, Charlotte 28232
J. Lawrence Sippe, M.D.[60] (OPH) (704-372-8750)
1350 S. Kings Dr., Charlotte 28207
Robert G. Townsend, Jr., M.D.[47] (FP) (919-875-5101)
P.O. Box 665, Raeford 28376
Robert W. Youngblood, M.D.[98] (GS/TS) (919-291-7001)
1201 Brookside Dr., Wilson 27893

Cost Management of Medical Care Committee II-2 (22) (1 Consultant)
Deborah S. Lenahan, M.D.[29] (OPH) (704-243-2436) **Chairman**
2 Hospital Dr., Lexington 27292
Howard L. Armistead, Jr., M.D.[65] (FP/OM) (919-762-7776)
2108 S. 17th St., Wilmington 28401
D. E. Barham (919-946-8111)
P.O. Box 191, Washington 27889
Charles N. Burger (704-324-9716)
P.O. Box 3584, Hickory 28603
Charles E. Crumley, M.D.[55] (IM) (704-735-3081)
P.O. Box 1309, Lincolnton 28093
Ned Donnelly (704-735-4523)
P.O. Box 220, Lincolnton 28093
Nereus C. English (919-472-7788)
Carolina Underwear Co., P.O. Box 398, Thomasville 27360
Jack S. Greco (919-343-5534)
General Electric Co., P.O. Box 780, Wilmington 28402
Lee D. Hemink (919-756-6637)
Procter & Gamble, Inc., Rt. 11, Box 300, Greenville 27834
W. Claude Hollingsworth, M.D.[60] (OBG) (704-376-1612)
1928 Randolph Rd., Charlotte 28207
Gregory G. Holthusen, M.D.[34] (ORS) (919-768-1270)
P.O. Box 25007, Winston-Salem 27114
John L. McCain, M.D.[98] (RHU/IM) (919-291-7001)
Wilson Clinic, Wilson 27893
Simmons I. Patrick, M.D.[54] (R) (919-527-7077)
Kinston Clinic, N. Doctor's Dr., Kinston 28501
Jerry L. Pruitt, M.D.[18] (D) (704-328-6185)
24 2nd Ave., NE, Hickory 28601
Sol Schechter (919-527-8011)
Hampton Industries, P.O. Box 614, Kinston 28501
Robert Schroeder (704-522-8319)
2200 Delpond Ln., Charlotte 28222
Charles Setliffe (919-399-8040)
1705 S. Tarboro St., Wilson 27893
Samuel W. Warburton, Jr., M.D.[32] (FP) (919-471-4421)
407 Crutchfield St., Durham 27704
Zack J. Waters, M.D.[7] (GS) (919-946-9004)
604 E. 12th St., Washington 27889
Joseph Wilson (919-767-5100)
Piedmont Aviation, 1 Piedmont Plaza, Winston-Salem 27156
Charles F. Willson, M.D.[74] (PD) (919-752-7141)
1800 W. 5th St., Greenville 27834
N. William Young, M.D.[32] (OPH) (919-471-8495)
2609 N. Duke St., Durham 27704

Consultant:
George Stiles (704-334-7656)
Council on Health Costs, Inc., 730 E. Trade St., Ste. 1020, Charlotte 28202

13. Council on Review & Development (7) (3 Ex Officio with Vote, 1 nonvoting)
Thomas B. Dameron, Jr., M.D.[92] (ORS) **Chairman**
(919-781-5600)
P.O. Box 10707, Raleigh 27605
Jack Hughes, M.D.[32] (U) (919-286-1297) **Vice-Chairman**
923 Broad St., Durham 27705
Kenneth E. Cosgrove, M.D.[45] (IM/CD) (704-692-2231)
510 7th Ave., W., Hendersonville 28739
John W. Foust, M.D.[60] (OT) (704-365-0711)
3535 Randolph Rd., Charlotte 28211
Josephine E. Newell, M.D.[98] (FP) (919-733-7613)
Raleigh Towne, Apt. 47, 525 Wade Ave., Raleigh 27605
Marshall S. Redding, M.D.[70] (OPH) (919-335-5446)
1142 N. Road St., Elizabeth City 27909
Frank Sohmer, M.D.[34] (GE/IM) (919-760-4340)
1901 S. Hawthorne Rd., Ste. 310, Winston-Salem 27103

Ex Officio with Vote:
Henry J. Carr, Jr., M.D.[82] (IM) (President) (919-592-6114)
603 Beaman St., Clinton 28328
Ernest B. Spangler, M.D.[41] (R) (President-Elect) (919-854-6546)
Drawer X-3, Greensboro 27401
John T. Dees, M.D.[65] (FP/PH) (Secretary) (919-259-2161)
P.O. Box 815, Burgaw 28425

Ex Officio Nonvoting:
George E. Moore (Executive Vice-President) (919-833-3836)
P.O. Box 27167, Raleigh 27611

14. Credentials Committee (of Delegates to House of Delegates) III-5 (5)
Louis R. Wilkerson, M.D.[92] (OBG) (919-832-5529) **Chairman**
100 S. Boylan Ave., Raleigh 27603
W. Otis Duck, M.D.[57] (FP) (704-689-2411)
Drawer 729, Mars Hill 28754
Charles H. Duckett, M.D.[74] (FP) (919-551-4614)
ECU School of Medicine, Greenville 27834
J. Grayson Hall, M.D.[86] (FP) (919-386-8270)
P.O. Box 158, Dobson 27017
Carey J. Walton, Jr., M.D.[14] (IM/GE) (704-758-5544)
322 Mulberry St., SW, Lenoir 28645

15. Disaster & Emergency Medical Care Committee V-2 (19) (1 Consultant)
Joseph A. Moylan, M.D.[32] (GS/TRS) (919-684-2237) **Chairman**
Duke Medical Center, Box 3947, Durham 27710
E. Jackson Allison, Jr., M.D.[74] (EM) (919-551-4757)
ECU, Dept. of Emergency Medicine, Greenville 27834
Eleanor E. Avery[74] (ST) (ECU) (919-752-0569)
Rt. 2, Box 305, Greenville 27834
John W. Baker, M.D.[60] (EM/IM) (704-338-3181)
P.O. Box 32861, Charlotte 28232
Harry H. Ballard, M.D.[25] (GS/CDS) (919-633-2081)
800 Hospital Dr., Ste. 6, New Bern 28560

Paul R. Cunningham, M.D.[74] (GS) (919-551-2620)
ECU, Brody Bldg., Room 4S-10, Greenville 27834
Cornelius M. Dyke[32] (ST) (DUKE) (919-493-7104)
Duke Medical Center, Box 2722, Durham 27710
Gregory S. Georgiade, M.D.[32] (PS/GS) (919-684-3039)
Duke Medical Center, Box 3960, Durham 27710
Frederick W. Glass, M.D.[34] (EM/GS) (919-748-4626)
Bowman Gray Sch. of Med., Winston-Salem 27103
Alfred R. Hansen, M.D.[32] (EM/FP) (919-966-5643)
UNC, Burnett-Womack, 229-H, Chapel Hill 27514
Charles L. Herring, M.D.[54] (IM) (919-523-0026)
310 Glenwood Ave., Kinston 28501
George Johnson, Jr., M.D.[32] (VS/CDS) (919-966-3391)
UNC, Dept. of Surg., 229-H, Chapel Hill 27514
David L. Kelly, Jr., M.D.[34] (NS) (919-748-4049)
Bowman Gray, Dept. of Neurosurgery, Winston-Salem 27103
Hervy B. Kornegay, Sr., M.D.[96] (FP) (919-658-4954)
238 Smith Chapel Rd., Mt. Olive 28365
Noel B. McDevitt, M.D.[63] (PS/PSF) (919-295-5131)
1 Memorial Drive, Pinehurst 28374
Robert W. Schafermeyer, M.D.[60] (EM/PD) (704-338-3181)
Charlotte Mem. Hospital, P.O. Box 32861, Charlotte 28232
Harold R. Silberman, M.D.[32] (EM/IM) (919-684-5537)
Duke Hospital, Box 3975-M, Durham 27710
Llewellyn W. Stringer, M.D.[34] (PUD) (919-765-7517)
1728 S. Hawthorne Rd., Winston-Salem 27103
Stuart K. Todd, M.D.[64] (GS) (919-443-9084)
100 Nash Medical Arts Mall, Rocky Mount 27801

Consultant:
Mr. Bob Bailey, Chief (919-733-2285)
Office of Emergency Medical Services, 701 Barbour Dr., Raleigh 27603

16. Drug Abuse & Pharmacy Committee VI-2 (13) (6 Consultants)
Ronald B. Mack, M.D.[34] (PD) (919-727-8108) **Chairman**
2516 Woodberry Dr., Winston-Salem 27106
Charles S. Betts, M.D.[76] (IM) (919-629-7710)
220-A Foust St., Asheboro 27203
John A. Ewing, M.D.[26] (P) (919-484-5151)
1262 Oliver St., Fayetteville 28304
Sarah Grossman[34] (ST) (BG) (919-723-3868)
1608-K Northwest Blvd., Winston-Salem 27103
Douglas J. Harben, M.D.[60] (D/IM) (704-364-6110)
3535 Randolph Rd., Ste. 101-W, Charlotte 28211
Riley M. Jordan, M.D.[47] (FP) (919-875-5151)
116 Campus Ave., Raeford 28376
Paul T. Kayye, M.D.[92] (P/CHP) (919-733-7011)
Dept. of Human Resources, 325 N. Salisbury St., Raleigh 27611
Alan L. Krueger, M.D.[11] (P) (704-253-3681)
P.O. Box 5534, Asheville 28813
Jonnie H. McLeod, M.D.[60] (PD) (704-597-2171)
Dept. of Human Services, UNC Charlotte Station, Charlotte 28223
James H. Sanders, Jr., M.D.[88] (FP/GER) (704-884-9362)
P.O. Box 389, Brevard 28712
Daniel G. Sayers, M.D.[34] (EM) (919-748-4625)
2804 Montclair Rd., Winston-Salem 27106
Anthony J. Weisenberger, M.D.[11] (P)(704-253-3681)
P.O. Box 5534, Asheville 28813
Robert B. Winslow, M.D.[92] (PS/GS) (919-782-7762)
2501 North St., Ste. 500, Raleigh 27607

Consultants:
Mr. Keith Bulla (919-295-5320)
SBI, P.O. Box 18243, Greensboro 27419
Col. Jack F. Cardwell (919-733-7952)
NC Highway Patrol, P.O. Box 27687, Raleigh 27611
Mrs. Hugh H. Hayes, Jr. (Imogene) (Auxiliary) (704-366-5621)
5033 Gorham Dr., Charlotte 28211
Mr. A. H. Mebane, III, Executive Director (919-967-2237)
NC Pharmaceutical Association, Drawer 151, Chapel Hill 27514
Robert Winslow, Pharm.D. (919-748-2037)
Bowman Gray Sch. of Med., Winston-Salem 27103
Mr. David R. Work, Secretary-Treasurer (919-942-4454)
NC Board of Pharmacy, P.O. Box H, Carrboro 27510

17. Eye Care & Eye Bank Committee V-3 (26)
Edward M. Hedgpeth, Jr., M.D.[32] (OPH) **Chairman** (919-682-9341)
1110 W. Main St., Durham 27701
Charles L. Baltimore, Jr., M.D.[7] (OPH) (919-946-2171)
211 N. Market St., Washington 27889
Scott P. Bowers, M.D.[98] (OPH) (919-291-1300)
#5 Silver Lake Villas, Wilson 27893
Walter G. Bullington, M.D.[60] (OPH/AM) (704-364-7400)
4335 Colwick Rd., Charlotte 28211
L. Michael Cobo, M.D.[32] (OPH) (919-684-3799)
Duke Eye Center, Box 3802, Durham 27710
Kenneth L. Cohen, M.D.[32] (OPH) (919-966-5296)
UNC, Dept. of Oph., 617 Clinical Science Bldg., 229-H, Chapel Hill 27514
Andrew Davidson, M.D.[25] (OPH) (919-633-4183)
802 McCarthy Blvd., New Bern 28560
Robert E. Dawson, M.D.[32] (OPH) (919-682-7175)
512 Simmons St., Durham 27701
William W. Foster, M.D.[92] (OPH) (919-876-2427)
3320 Executive Dr., Ste. 111, Raleigh 27609
Gary N. Foulks, M.D.[32] (OPH) (919-684-6417)
Duke Medical Center, Box 3802, Durham 27710
Baird S. Grimson, M.D.[32] (OPH) (919-966-5296)
UNC, 617 Clinical Science Bldg., 229-H, Chapel Hill 27514
Sidney L. Gulledge, III, M.D.[92] (OPH) (919-878-0220)
3400 Executive Dr., Ste. 101, Raleigh 27609
Frank T. Hannah, M.D.[23] (OPH) (704-482-0696)
313 S. Washington St., Shelby 28150
Walter B. Holland, M.D.[49] (OPH) (704-872-4108)
P.O. Box 1144, Statesville 28677
Edward K. Isbey, Jr., M.D.[11] (OPH) (704-258-1586)
495 Biltmore Ave., Asheville 28801
Martin J. Kreshon, M.D.[60] (OPH) (704-372-3300)
1600 E. Third St., Charlotte 28204
John D. Matthews, M.D.[41] (OPH) (919-282-5000)
3312 Battleground Ave., Greensboro 27410
J. Stuart McCracken, M.D.[32] (OPH) (919-471-8495)
2609 N. Duke St., Ste. 203, Durham 27704
Dean P. Porter[32] (ST) (UNC) (919-933-7840)
250 S. Estes Dr., #34, Chapel Hill 27514
Marshall S. Redding, M.D.[70] (OPH) (919-335-5446)
1142 N. Road St., Elizabeth City 27909
John W. Reed, M.D.[34] (OPH) (919-748-4091)
Bowman Gray, Dept. of Oph., Winston-Salem 27103
Luther C. Sappenfield, Jr., M.D.[26] (OPH) (919-484-6141)
1629 Owen Dr., Fayetteville 28304
M. Bruce Shields, M.D.[32] (OPH) (919-684-2841)
Duke University Eye Center, Durham 27710
J. Lawrence Sippe, M.D.[60] (OPH) (704-372-8750)
1350 S. Kings Dr., Charlotte 28207
M. Madison Slusher, M.D.[34] (OPH) (919-748-4091)
300 S. Hawthorne Rd., Winston-Salem 27103
Shahane R. Taylor, Jr., M.D.[41] (OPH) (919-274-4626)
348 N. Elm St., Greensboro 27401

18. Finance Committee I-2 (6) (10 Consultants) (3 Ex Officio)
Thomas F. O'Brien, Jr., M.D.[74] (GE/IM) **Chairman** (919-551-4652)
ECU School of Medicine, Greenville 27834
Ernest B. Spangler, M.D.[41] (R) (919-854-6546) **Vice-Chairman**
Drawer X-3, Greensboro 27402
C. Christopher Bremer, M.D.[74] (FP) (919-756-7974)
317 Pinewood Rd., Greenville 27834
Kenneth E. Cosgrove, M.D.[45] (IM/CD) (704-692-2231)
510 7th Ave., W., Hendersonville 28739
Charles W. Lapp, M.D.[92] (IM/PD) (919-878-0900)
3400 Executive Dr., Raleigh 27609
E. Thomas Marshburn, Jr., M.D.[65] (IM) (919-762-9621)
3208 Oleander Dr., Wilmington 28401

Ex Officio:
Henry J. Carr, M.D.[82] (IM) (President) (919-592-6114)
603 Beaman St., Clinton 28328
John W. Foust, M.D.[60] (OT) (Past President) (704-365-0711)
3535 Randolph Rd., Charlotte 28211
John T. Dees, M.D.[65] (FP/PH) (Secretary) (919-259-2161)
P.O. Box 815, Burgaw 28425

Consultants:
R. Jackson Blackley, M.D.[92] (P/GPM) (919-733-6523)
325 N. Salisbury St., Raleigh 27611
David M. Fajgenbaum, M.D.[92] (ORS) (919-872-5296)
3410 Executive Dr., Raleigh 27619
William R. Hudson, M.D.[32] (OTO) (919-684-3834)
Duke Medical Center, Durham 27710
I — F. Maxton Mauney, Jr., M.D.[11] (CDS/TS) (704-258-1121)
257 McDowell St., Asheville 28803
II — Lawrence M. Cutchin, M.D.[33] (IM/PD) (919-823-1607)
Rt. 3, Box 325, Tarboro 27886
III — Edwin W. Monroe, M.D.[74] (IM) (919-551-4606)
ECU School of Medicine, Greenville 27834
IV — Eugene S. Mayer, M.D.[32] (GPM) (919-966-2461)
UNC, Wing C, 221-H, Box 3, Chapel Hill 27514
V — Elizabeth P. Kanof, M.D.[92] (D) (919-878-0310)
3400 Executive Dr., Raleigh 27609
VI — Thad B. Wester, M.D.[78] (PD/PH) (919-733-3446)
1001-101 Brighthurst Dr., Raleigh 27601
Edna Hoffman, M.D.[26] (OBG) (919-485-4755)
348 Valley Rd., Fayetteville 28305

. Goals & Objectives Committee I-3 (3-yr. term) (6)
(3 Consultants)
Jack Hughes, M.D.[32] (U) (1989) (919-286-1297) **Chairman**
923 Broad St., Durham 27705
J. Dewey Dorsett, Jr., M.D.[60] (IM/CD) (1987) (704-333-4175)
1851 E. Third St., Charlotte 28204
D. John Godehn, Jr., M.D.[45] (D) (1989) (704-693-0275)
506 Park Hill Ct., Ste. 1, Hendersonville 28739
Susan S. Gustke, M.D.[92] (IM/HEM) (1990) (919-733-5431)
4100 Stranaver Pl., Raleigh 27612
Clifford R. Guy, M.D.[34] (CD/IM) (1990) (919-768-4730)
250 Charlois Blvd., Winston-Salem 27103
Shahane R. Taylor, Jr., M.D.[41] (OPH) (1988) (919-274-4626)
348 N. Elm St., Greensboro 27401

Consultants:
Charles O. Boyette, M.D.[7] (FP) (919-943-2651)
P.O. Box 310, Belhaven 27810
Kenneth M. Dennis, M.D.[44] (PD/ADL) (704-627-9226)
1 Smathers St., Clyde 28721
Assad Meymandi, M.D.[26] (P/N) (919-485-6166)
1212 Walter Reed Rd., Fayetteville 28304

0. Representative on Governor's Advisory Council on Aging (1)
(4-yr. term)
James S. Parsons, M.D.[92] (IM) (919-832-5125) (1990)
704 W. Jones St., Raleigh 27603

1. Health Care Professionals Liaison Committee II-4 (6)
(5 Consultants)
John L. McCain, M.D.[98] (RHU/IM) (919-291-7001) **Chairman**
Wilson Clinic, Wilson 27893
Roy A. Agner, Jr., M.D.[80] (IM) (704-633-7220)
611 Mocksville Ave., Salisbury 28144
Clyde J. Dellinger, M.D.[12] (FP) (704-437-3634)
P.O. Box 8, Drexel 28619
F. Maxton Mauney, Jr., M.D.[11] (CDS/TS) (704-258-1121)
257 McDowell St., Asheville 28803
D. Edmond Miller, M.D.[32] (CD/IM) (919-471-8441)
2609 N. Duke St., Ste. 403, Durham 27704
C. Glenn Pickard, Jr., M.D.[32] (IM) (919-966-2276)
N.C. Memorial Hospital, Chapel Hill 27514

Consultants:
Jo Franklin, R.N. (NCNA) (704-873-5661)
Rt. 8, Box 376-B, Salisbury 28144
Marc Katz, P.A. (NCAPA) (704-328-2941)
Rt. 4, Box 213-A, Vale 28168
Bryant D. Paris, Jr., (BME) (919-833-5321)
222 N. Person St., Ste. 214, Raleigh 27601
Ruth Patterson, Ed.D., CMA (NCSMA) (919-833-6752)
NCSU, Box 7801, Raleigh 27695
John H. Rhoades (NC Medical Group Managers) (704-372-3300)
1600 E. Third St., Charlotte 28204

22. Health Insurance Companies & Plans Committee IV-2 (44)
James C. Gaither, M.D.[18] (IM) (704-322-1128) **Chairman**
660 Milton Rd., Newton 28658
James D. Anderson, M.D.[60] (OBG) (704-373-1541)
1023 Edgehill Rd., S., Charlotte 28207
William S. Bost, Jr., M.D.[74] (OTO) (919-752-5227)
P.O. Box 5007, Greenville 27834
William R. Bullock, M.D.[60] (IM/OM) (704-372-3350)
217 Travis Ave., Charlotte 28204
Robert W. Carter, M.D.[1] (IM/CD) (919-227-3621)
Kernodle Clinic, Burlington 27215
John Cashman, M.D.[65] (U) (919-763-6251)
1905 Glen Meade Rd., Wilmington 28403
Douglas H. Clark, M.D.[78] (GS) (919-738-8556)
295 W. 27th St., Lumberton 28358
Donald L. Copeland, M.D.[60] (FP) (704-892-3723)
Rt. 1, Davidson 28036
James P. Culley, M.D.[62] (GS) (919-572-3737)
506 Wood St., Troy 27371
John T. Daly, M.D.[32] (PTH/FOP) (919-477-6742)
P.O. Box 15337, Durham 27704
Arthur E. Davis, Jr., M.D.[92] (PTH/A) (919-833-9839)
1209 Cowper Dr., Raleigh 27608
R. Dale Ensor, M.D.[60] (U) (704-372-5180)
1333 Romany Rd., Charlotte 28204
Frederick W. Glass, M.D.[34] (EM/GS) (919-784-4626)
Bowman Gray Sch. of Med., Winston-Salem 27103
H. Gerard Hartzog, III, M.D.[92] (GS) (919-781-0710)
3814 Browning Pl., Raleigh 27609
Howard Holderness, Jr., M.D.[41] (PS/GS) (919-275-0919)
200 E. Northwood St., Ste. 400, Greensboro 27401
William R. Hudson, M.D.[32] (OTO) (919-684-3834)
Duke Medical Center, Durham 27710
George K. Ibrahim[32] (ST) (DUKE) (919-493-3695)
11 Willowbridge Dr., #80, Durham 27707
Thomas H. Irving, M.D.[49] (AN) (704-872-7364)
415 E. Broad St., Statesville 28677
George Johnson, Jr., M.D.[32] (VS/CDS) (919-966-3391)
UNC, Dept. of Surgery, 229-H, Chapel Hill 27514
Lyndon K. Jordan, M.D.[51] (FP) (919-934-7687)
P.O. Box 760, Smithfield 27577
Frederic R. Kahl, M.D.[34] (CD/IM) (919-748-4261)
300 S. Hawthorne Rd., Winston-Salem 27103
Bruce L. Kihlstrom, M.D.[32] (NS/GS) (919-383-5531)
1830 Hillandale Rd., Durham 27705
Stephen N. Lang, M.D.[32] (ORS) (919-684-3949)
Duke Medical Center, Box 2919, Durham 27704
John D. Larson, Jr., M.D.[92] (EM/OBG) (919-755-8500)
8100 Bentwood Pl., Raleigh 27609
Leslie M. Morris, M.D.[36] (R) (704-865-4430)
3636 Brentwood Dr., Gastonia 28054
H. Maxwell Morrison, Jr., M.D.[63] (OPH) (919-295-6809)
P.O. Box 460, Pinehurst 28374
Duncan Morton, Jr., M.D.[60] (PDS/GS) (704-377-3900)
2104 Randolph Rd., Charlotte 28207
Joseph A. Moylan, M.D.[32] (GS/TRS) (919-684-2237)
Duke Medical Center, Box 3947, Durham 27710
John F. Munroe, Jr., M.D.[24] (IM/END) (919-642-2230)
Baldwin Woods, SW, Box 1249, Whiteville 28472
Henry H. Nicholson, Jr., M.D.[60] (GS/CRS) (704-375-8956)
1012 Kings Dr., Ste. 708, Charlotte 28283
Harold C. Pollard, III, M.D.[34] (OBG) (919-765-9350)
2927 Lyndhurst Ave., Winston-Salem 27103
Edwin T. Preston, M.D.[32] (ORS) (919-942-3171)
110 S. Estes Dr., Chapel Hill 27514
Robert E. Price, Jr., M.D.[32] (NS) (919-383-5531)
1830 Hillandale Rd., Durham 27705
Bobby A. Rimer, M.D.[60] (OBG) (704-331-3149)
Charlotte Mem. Hospital, P.O. Box 32861, Charlotte 28232
Leon W. Robertson, M.D.[64] (FP/OM) (919-443-8810)
107 Medical Arts Mall, Rocky Mount 27801
James G. Scanlan, M.D.[92] (CD/IM) (919-872-8920)
3400 Executive Dr., Ste. 201, Raleigh 27609
Wilbur T. Shearin, Jr., M.D.[65] (U) (919-763-6251)
1905 Glen Meade Rd., Wilmington 28403
Hal M. Stuart, M.D.[86] (FP) (919-835-3613)
180-C Parkwood Dr., Elkin 28621

Shahane R. Taylor, Jr., M.D.[41] (OPH) (919-274-4626)
348 N. Elm St., Greensboro 27401
Andrew W. Walker, M.D.[60] (PS/HS) (704-372-6846)
2215 Randolph Rd., Charlotte 28207
William H. White, Jr., M.D.[53] (OBG) (919-775-2304)
109-A S. Vance St., Sanford 27330
S. Terry Withers, Sr., M.D.[54] (D) (919-523-3289)
905 N. Queen St., Kinston 28501

23. Department of Human Resources Liaison Committee IV-3 (16) (4 Consultants)
John L. McCain, M.D.[98] (RHU/IM) (919-271-7001) **Chairman**
Wilson Clinic, Wilson 27893
Robert G. Brame, M.D.[74] (OBG) (919-551-4093)
1729 Forest Hill Dr., Greenville 27858
M. Robert Cooper, M.D.[34] (ON/HEM) (919-748-4300)
300 S. Hawthorne Rd., Winston-Salem 27103
Raphael J. Dinapoli, M.D.[32] (PH/AM) (919-733-2393)
1985 Umstead Dr., Raleigh 27603
Hector H. Henry, II, M.D.[13] (U) (704-786-5133)
102 Lake Concord Rd., N.E., Concord 28025
George Johnson, Jr., M.D.[32] (VS/CDS) (919-966-3391)
UNC, Dept. of Surgery, 229-H, Chapel Hill 27514
Angus M. McBryde, Jr., M.D.[60] (ORS) (704-372-0743)
1012 Kings Dr., Ste. 101, Charlotte 28283
Campbell W. McMillan, M.D.[32] (PHO/PD) (919-966-3133)
UNC, Dept. of Pediatrics, 229-H, Chapel Hill 27514
Charles R. Martin, M.D.[67] (PD) (919-353-0581)
120 Memorial Dr., Jacksonville 28540
Joseph A. Moylan, M.D.[32] (GS/TRS) (919-684-2237)
Duke Medical Center, Box 3947, Durham 27710
James S. Parsons, M.D.[92] (IM) (919-832-5125)
704 W. Jones St., Raleigh 27603
Charles K. Scott, M.D.[1] (PD/ADL) (919-228-8316)
530 W. Webb Ave., Burlington 27215
Nicholas E. Stratas, M.D.[92] (P/HYP) (919-787-7125)
3900 Browning Pl., Ste. 201, Raleigh 27609
Phillip E. Stover, M.D.[35] (FP) (919-496-5774)
519 Bickett Blvd., Louisburg 27549
Harry H. Summerlin, Jr., M.D.[11] (FP) (704-298-3090)
944 Tunnel Rd., Asheville 28805
W. Samuel Yancy, M.D.[32] (PD/ADL) (919-688-6349)
306 S. Gregson St., Durham 27701

Consultants:
Mrs. Neil M. DeStefano (Beverly) (Auxiliary) (919-939-7192)
P.O. Drawer 780, Reidsville 27320
Elizabeth P. Joyner (Health Director) (919-794-2057)
P.O. Box 586, Windsor 27983
Barbara D. Matula, Director (919-733-2060)
Div. of Medical Assistance, 1985 Umstead Dr., Raleigh 27603
Lillian J. Todd, R.N., Nursing Consultant (919-733-2833)
Div. of Medical Assistance, 1985 Umstead Dr., Raleigh 27603

24. Legislation Committee V-4 (13) (41 Consultants)
H. David Bruton, M.D.[63] (PD) (919-692-2444) **Chairman**
195 W. Illinois Ave., Southern Pines 28387
Neil C. Bender, M.D.[25] (IM) (919-633-1010)
P.O. Box 68, Pollocksville 28573
Don C. Chaplin, M.D.[1] (IM/CD) (919-227-3621)
Kernodle Clinic, 316 Graham-Hopedale Rd., Burlington 27215
John A. Fagg, M.D.[34] (PS) (919-765-8620)
2901 Maplewood Ave., Winston-Salem 27103
Malcolm Fleishman, M.D.[26] (IM/CD) (919-484-0144)
P.O. 35126, Fayetteville 28303
D. John Godehn, Jr., M.D.[45] (D) (704-693-0275)
506 Park Hill Ct., Ste. 1, Hendersonville 28739
Hector H. Henry, II, M.D.[13] (U/PD) (704-786-5133)
102 Lake Concord Rd., NE, Concord 28025
John A. Henderson, M.D.[11] (GS) (704-254-2341)
117 Rathfarnham Cir., Asheville 28803
Lynn A. Hughes, M.D.[13] (OTO) (704-788-1103)
11 Ardsley Ave., NE, Concord 28025
Hervy B. Kornegay, Sr., M.D.[96] (FP) (919-658-4954)
238 Smith Chapel Rd., Mt. Olive 28365
Angus M. McBryde, Jr., M.D.[60] (ORS) (704-372-0743)
1012 Kings Dr., Ste. 101, Charlotte 28283
John L. McCain, M.D.[98] (RHU/IM) (919-291-7001)
Wilson Clinic, Wilson 27893
David S. Nelson, M.D.[34] (EM/GS) (919-765-3950)
248 Flintshire Rd., Winston-Salem 27104

Consultants:
Stephen G. Anderson, M.D.[34] (OBG) (919-765-9350)
2927 Lyndhurst Ave., Winston-Salem 27103
W. Grimes Byerly, M.D.[18] (GS) (704-328-2231)
24 Second Ave., NE, Hickory 28601
Howard Campbell (Health Director) (919-338-2167)
P.O. Box 189, Elizabeth City 27909
Henry J. Carr, Jr., M.D.[82] (IM) (919-592-6114) (President)
603 Beaman St., Clinton 28328
Bertram W. Coffer, M.D.[92] (AN) (919-781-7420)
P.O. Box 18139, Raleigh 27619
John E. Cook, M.D.[70] (AN) (919-338-1542)
P.O. Box 96, Camden 27921
John T. Dees, M.D.[65] (FP/PH) (919-259-2161) (Secretary)
P.O. Box 815, Burgaw 28425
Kenneth M. Dennis, M.D.[44] (PD/ADL) (704-627-9226)
1 Smathers St., Clyde 28721
W. Otis Duck, M.D.[57] (FP) (704-689-2411)
Drawer 729, Mars Hill 28754
J. Ronald Edwards, M.D.[92] (PTH) (919-755-8260)
Rt. 7, Box 210E, Raleigh 27614
Edgar C. Garrabrant, M.D.[92] (OTO) (919-787-7171)
P.O. Box 18946, Raleigh 27619
Mrs. Lewis J. Gaskin (Pat) (Auxiliary Leg. Chmn.) (919-787-2969
301 Ramblewood Dr., Raleigh 27609
H. William Gillen, M.D.[65] (N) (919-762-8501)
1301 Cypress Grove Dr., Wilmington 28401
T. Reginald Harris, M.D.[23] (PUD/IM) (704-482-1482)
808 Schenck St., Shelby 28150
John T. Henley, Jr., M.D.[26] (OTO) (919-323-1463)
3314 Melrose Rd., Ste. 100, Fayetteville 28304
Charles A. Hoffman, Jr., M.D.[26] (U) (919-485-8801)
513 Owen Dr., Fayetteville 28304
Edna M. Hoffman, M.D.[26] (OBG) (919-485-4755)
348 Valley Rd., Fayetteville 28305
Hampton Hubbard, M.D.[82] (U) (919-592-7129)
Woodside Prof. Bldg., Clinton 28328
O. Raymond Hunt, M.D.[65] (CDS/TS) (919-763-6571)
1607 Doctor's Cir., Wilmington 28401
William M. Johnstone, Jr.[74] (ST) (ECU) (919-758-7213)
1608 Beaumont Dr., Greenville 27858
Elizabeth P. Kanof, M.D.[92] (D) (919-878-0310)
3400 Executive Dr., Raleigh 27609
Frank W. Leak, M.D.[82] (FP) (919-592-6011)
Clinton Medical Clinic, Clinton 28328
Ronald H. Levine, M.D.[92] (PH/PD) (919-733-3446)
2404 White Oak Rd., Raleigh 27609
John D. Matthews, M.D.[41] (OPH) (919-282-5000)
3312 Battleground Ave., Greensboro 27410
F. Maxton Mauney, Jr., M.D.[11] (CDS/TS) (704-258-1121)
257 McDowell St., Asheville 28803
Assad Meymandi, M.D.[26] (P/N) (919-485-6166)
1212 Walter Reed Rd., Fayetteville 28304
Robert E. Miller, M.D.[60] (ORS) (704-373-0544)
1822 Brunswick Ave., Charlotte 28207
Edwin W. Monroe, M.D.[74] (IM) (919-551-4606)
ECU School of Medicine, Greenville 27834
Henry H. Nicholson, Jr., M.D.[60] (GS/CRS) (704-375-8956)
1012 Kings Dr., Ste. 708, Charlotte 28283
Mrs. Charles J. Niemeyer (Carolyn) (Auxiliary President-Elect) (704-867-8180)
3421 Country Club Dr., Gastonia 28054
J. Jerome Pence, Jr., M.D.[65] (FP) (919-763-3481)
2110 S. 17th St., Wilmington 28401
Charles A. Phillips, M.D.[63] (GS/CRS) (919-295-5311)
165 Page Rd., #2, Pinehurst 28374
Robert H. Shackelford, M.D.[96] (FP) (919-658-4954)
238 Smith Chapel Rd., Mt. Olive 28365
Dale R. Shaw, M.D.[92] (DR) (919-787-8199)
P.O. Box 19366, Raleigh 27619
Jimmy L. Simon, M.D.[34] (PD) (919-748-4431)
Bowman Gray, Dept. of Ped., Winston-Salem 27103

Mrs. Ralph E. Snyder (Jackie) (Auxiliary President)
(919-949-3166)
378-A Pine Ridge Dr., Whispering Pines 28327
Frank Sohmer, M.D.[34] (GE/IM) (919-760-4340)
1901 S. Hawthorne Rd., Ste. 310, Winston-Salem 27103
Ernest B. Spangler, M.D.[41] (R) (919-854-6546)
Drawer X-3, Greensboro 27402
John S. Stevenson, M.D.[77] (R/NM) (919-997-2595)
926 Biggs Blvd., Rockingham 28379
J. B. Warren, M.D.[25] (FP) (919-637-5888)
203 Pine Rd., New Bern 28560
Louis R. Wilkerson, M.D.[92] (OBG) (919-832-5529)
100 S. Boylan Ave., Raleigh 27603

Maternal Health Committee VI-3 (22) (1 Consultant) (6-yr. term)
Robert G. Brame, M.D.[74] (OBG) (1991) **Chairman**
(919-551-4983)
1729 Forest Hill Dr., Greenville 27858
William A. Peters, Jr., M.D.[70] (GYN) (1st) (1989) (919-335-2355)
P.O. Box 392, Elizabeth City 27909
Rudolph I. Mintz, Jr., M.D.[54] (OBG) (2nd) (1993) (919-522-3373)
1906 Stanton Rd., Kinston 28501
John W. Nance, M.D.[82] (FP) (3rd) (1990) (919-592-6011)
403 Fairview St., Clinton 28328
Talbot F. Parker, Jr., M.D.[96] (OBG) (4th) (1988) (919-734-3344)
2400 Wayne Memorial Dr., Ste. K, Goldsboro 27530
John C. Rozier, Jr., M.D.[78] (OBG) (5th) (1989) (919-738-9601)
4300 Fayetteville Rd., Lumberton 28358
Shep A. McKenzie, III, M.D.[92] (OBG/IM) (6th) (1991)
(919-781-6200)
3805 Computer Dr., Raleigh 27609
L. Clayton Harrell, III, M.D.[60] (OBG) (7th) (1991) (704-377-0461)
150 Providence Rd., Charlotte 28207
Harold C. Pollard, III, M.D.[34] (OBG) (8th) (1989) (919-765-9350)
2927 Lyndhurst Ave., Winston-Salem 27103
A. Sherman Morris, Jr., M.D.[11] (OBG) (10th) (1987)
(704-255-8900)
80 Victoria Rd., Asheville 28801
C. Christopher Bremer, M.D.[74] (FP) (ECU) (1990) (919-756-7974)
317 Pinewood Rd., Greenville 27834
Mary Susan Fulghum, M.D.[92] (OBG) (1991) (919-832-5529)
100 S. Boylan Ave., Raleigh 27603
William P. Herbert, M.D.[32] (OBG/NPM) (UNC) (1991)
(919-966-1601)
UNC, Dept. of OB/GYN, Chapel Hill 27514
Rodney H. Allen[32] (ST) (UNC) (919-929-5745)
602 The Oaks, Chapel Hill 27514
Deborah M. Casey[34] (ST) (BG) (919-724-4472)
138 N. Sunset Dr., Apt. 2, Winston-Salem 27101
Thomas W. Littlejohn, III, M.D.[34] (FP) (919-768-8890)
2805 Lyndhurst Ave., Winston-Salem 27103
W. Joseph May, M.D.[34] (GYN/OBG) (BG) (1988) (919-748-4595)
300 S. Hawthorne Rd., Winston-Salem 27103
Richard R. Nugent, M.D.[32] (GPM/OBG) (1990) (919-733-7791)
Division of Health Services, P.O. Box 2091, Raleigh 27602
Joseph B. Parker, Jr., M.D.[32] (P/PYM) (Duke) (1991)
(919-684-2415)
Duke Medical Center, Box 3838, Durham 27710
Douglas D. Sheets, M.D.[81] (OBG) (704-287-7383)
Tryon Rd., P.O. Box 1208, Rutherfordton 28139
Rose Mary Stocks[74] (ST) (ECU) (919-758-5864)
406-B S. Harding St., Greenville 27834
Thad B. Wester, M.D.[78] (PD/PH) (919-733-3446)
1001-101 Brighthurst Dr., Raleigh 27601

Consultant:
Mrs. William F. Harriss (Jane) (Auxiliary) (919-883-0035)
1500 Crestlin Rd., High Point 27260

Mediation Committee (5) (Five Immediate Past-Presidents)
Marshall S. Redding, M.D.[70] (OPH) (919-335-5446) **Chairman**
1142 N. Road St., Elizabeth City 27909
Kenneth E. Cosgrove, M.D.[45] (IM/CD) (704-692-2231) **Secretary**
510 7th Ave., W., Hendersonville 28739
Thomas B. Dameron, Jr., M.D.[92] (ORS) (919-781-5600)
P.O. Box 10707, Raleigh 27605
John W. Foust, M.D.[60] (OT) (704-365-0711)
3535 Randolph Rd., Charlotte 28211
Jack Hughes, M.D.[32] (U) (919-286-1297)
923 Broad St., Durham 27705

27. Medical Aspects of Sports Committee V-5 (24) (3 Consultants)
Frank W. Clippinger, Jr., M.D.[32] (ORS) (919-684-4229) **Chairman**
Duke Medical Center, Box 3935, Durham 27710
Wallace F. Andrew, Jr., M.D.[92] (ORS/HS) (919-781-5600)
P.O. Box 10707, Raleigh 27605
Edwin C. Bartlett, M.D.[74] (ORS) (919-752-4613)
#6, Medical Pavilion, Greenville 27834
Frank H. Bassett, III, M.D.[32] (ORS) (919-684-4378)
Duke Medical Center, Box 3004, Durham 27710
Basil M. Boyd, Jr., M.D.[60] (ORS) (704-373-0544)
1822 Brunswick Ave., Charlotte 28207
John P. Brisley[32] (ST) (UNC) (919-933-5874)
618-C Hibbard Dr., Chapel Hill 27514
Harvey E. Christensen, M.D.[18] (GS/TS) (704-322-9105)
Rt. 2, Box 190, Conover 28613
Howard G. Dawkins, M.D.[74] (PS/GS) (919-752-1406)
2577 Stantonsburg Rd., Greenville 27834
Joseph L. DeWalt, M.D.[32] (IM/ORS) (919-966-2281)
Iris Lane, Chapel Hill 27514
Karl B. Fields, M.D.[41] (FP) (919-379-4133)
1411 Garland Dr., Greensboro 27408
James D. Hundley, M.D.[65] (ORS) (919-763-7344)
2001 S. 17th St., Wilmington 28401
A. Tyson Jennette, M.D.[98] (ORS) (919-291-1300)
1700 S. Tarboro St., Wilson 27893
Hervy B. Kornegay, Sr., M.D.[96] (FP) (919-658-4954)
238 Smith Chapel Rd., Mt. Olive 28365
Joseph T. McLamb, M.D.[96] (ORS) (919-736-2157)
2701 Medical Office Pl., Goldsboro 27530
Joe M. McWhorter, M.D.[34] (NS) (919-748-4020)
300 S. Hawthorne Rd., Winston-Salem 27103
Henry H. Nicholson, Jr., M.D.[60] (GS/CRS) (704-375-8956)
1012 Kings Dr., Ste. 708, Charlotte 28283
Loel Z. Payne[32] (ST) (UNC) (919-968-6454)
Rt. 11, Box 94, Chapel Hill 27514
James M. Poole, M.D.[92] (PD/ADL) (919-782-5273)
3803 Computer Dr., Ste. 207, Raleigh 27609
Thomas L. Presson, M.D.[41] (ORS) (919-275-0724)
315 W. Wendover Ave., Greensboro 27408
Donald B. Reibel, M.D.[92] (ORS) (919-781-5600)
P.O. Box 10707, Raleigh 27605
Donald A. Riopel, M.D.[60] (PDC) (704-373-1503)
1960 Randolph Rd., Charlotte 28207
George D. Rovere, M.D.[34] (ORS) (919-748-3946)
300 S. Hawthorne Rd., Winston-Salem 27103
Timothy N. Taft, M.D.[32] (ORS) (919-966-2039)
UNC, Div. of Orth. Surg., Chapel Hill 27514
Wayne B. Venters, M.D.[67] (ORS) (919-353-1412)
200 Doctors Dr., Ste. J., Jacksonville 28540

Consultants:
Robbie Lester (919-733-3822)
Sports Medicine Division, NC Dept. of Public Instruction,
116 W. Edenton St., Raleigh 27611
Mrs. Charles J. Niemeyer (Carolyn) (Auxiliary) (704-867-8180)
3421 Country Club Dr., Gastonia 28054
Al Proctor, Ph.D. (919-733-3822)
Sports Medicine Division, NC Dept. of Public Instruction,
116 W. Edenton St., Raleigh 27611

28. Medical Education Committee III-6 (18)
Preston A. Walker, M.D.[92] (CHP/P) (919-733-5130) **Chairman**
Dorothea Dix Hospital, Taylor Hall, Raleigh 27611
Deborah M. Casey[34] (ST) (BG) (Chmn., Medical Student Sec.)
(919-742-4442)
138 N. Sunset Dr., Apt. 2, Winston-Salem 27101
Mary Ann Contogiannis, M.D.[74] (Chmn., Res. Phy. Sec.)
(919-756-6143)
3529 Spicebush Tr., Greensboro 27410
Harry A. Gallis, M.D.[32] (ID/IM) (DUKE) (919-648-3279)
Duke Hospital, Box 3306, Durham 27710

Charles M. Howell, Jr., M.D.[34] (D) (919-725-8422)
340 Pershing Ave., Winston-Salem 27103
Doreen Hughes[34] (ST) (BG) (919-722-5423)
2047 Craig St., Apt. B, Winston-Salem 27103
William B. Hunt, Jr., M.D.[25] (PUD/IM) (919-633-8608)
P.O. Box 2157, New Bern 28560
George K. Ibrahim[32] (ST) (DUKE) (919-493-3695)
11 Willowbridge Dr., #80, Durham 27707
Eugene S. Mayer, M.D.[32] (GPM) (UNC) (919-966-2461)
UNC, Wing C, 221-H Box 3, Chapel Hill 27514
Emery C. Miller, Jr., M.D.[34] (END/IM) (BG) (919-748-4274)
300 S. Hawthorne Rd., Winston-Salem 27103
Edwin W. Monroe, M.D.[74] (IM) (ECU) (919-551-4606)
ECU School of Medicine, Greenville 27834
John W. Nance, M.D.[82] (FP) (NCAFP) (919-592-6011)
403 Fairview St., Clinton 28328
T. Art Payne[32] (ST) (UNC) (919-929-4291)
405-A Coolridge St., Chapel Hill 27514
J. Carson Rounds[74] (ST) (ECU) (919-355-7427)
104 Chesterfield Ct., #26, Greenville 27834
Donald D. Smith, M.D.[41] (PD) (919-379-4025)
1200 N. Elm St., Greensboro 27401
Thomas A. Will, M.D.[36] (GP) (704-922-3106)
P.O. Box 515, Dallas 28034
William B. Wood, M.D.[32] (IM/PUD) (919-962-2118)
UNC, 231 MacNider Bldg., Chapel Hill 27514
Jerry C. Woodard, M.D.[98] (GE/IM) (919-291-1300)
1700 S. Tarboro St., Wilson 27893

29. Medical-Legal Committee V-6 (19)
Joseph M. Jenkins, M.D.[7] (U) (919-946-0136) **Chairman**
604 E. 12th St., Washington 27889
Rodney H. Allen[32] (ST) (UNC) (919-929-5745)
602 The Oaks, Chapel Hill 27514
Preecha Bhotiwihok, M.D.[54] (AN) (919-522-7800)
P.O. Box 1043, Kinston 28501
Walter S. Feldman, M.D.[60] (P/LM) (704-375-3575)
501 Billingsley Rd., Charlotte 28211
Frederick W. Glass, M.D.[34] (EM/GS) (919-748-4626)
Bowman Gray Sch. of Med., Winston-Salem 27103
Warner L. Hall, Jr., M.D.[92] (OBG) (919-782-1273)
P.O. Box 18568, Raleigh 27619
Julius Howell, M.D.[34] (PS/OTO) (919-760-1727)
1900 S. Hawthorne Rd., Ste. 480, Winston-Salem 27103
Thomas H. Irving, M.D.[49] (AN) (704-872-7364)
415 E. Broad St., Statesville 28677
Mark K. La Vigne[74] (ST) (ECU) (919-758-1822)
Doctor's Park Apts., J-2, Greenville 27834
Victor H. MacIntosh, M.D.[53] (FP) (919-774-6282)
207 E. Main St., Sanford 27330
T. Lynch Murphy, M.D.[80] (GE) (704-633-2732)
409 Mocksville Ave., Salisbury 28144
Robert J. Noecker[32] (ST) (UNC) (919-781-0707)
P.O. Box 884, Chapel Hill 27514
Ronald Riefkohl, M.D.[32] (PS/GS) (919-684-2854)
Duke Medical Center, Div. of Plastic Surgery, Durham 27710
Robert L. Rollins, Jr., M.D.[92] (P) (919-733-5525)
2500 Wake Dr., Raleigh 27608
Lary A. Schulhof, M.D.[11] (NS) (704-255-7776)
7 McDowell St., Asheville 28801
Thomas G. Thurston, III, M.D.[80] (OBG) (704-636-9270)
315 Mocksville Ave., Salisbury 28144
Andrew W. Walker, M.D.[60] (PS/HS) (704-372-6846)
2215 Randolph Rd., Charlotte 28207
Abe Walston, II, M.D.[32] (CD/IM) (919-682-5561)
306 S. Gregson St., Durham 27701
Walter C. Whitehurst, Jr., M.D.[67] (R) (919-577-2274)
201 Deborah Dr., Jacksonville 28540

30. Membership Committee I-4 (39) (5 Consultants)
Kenneth E. Cosgrove, M.D.[45] (IM/CD) (704-692-2231) **Chairman**
510 7th Ave., W., Hendersonville 28739
Robert W. Carter, M.D.[1] (IM/CD) (Chmn., IM Sec.) (919-227-3621)
Kernodle Clinic, Burlington 27215
Deborah M. Casey[34] (ST) (Chmn., Med. Stud. Sec.) (919-724-4442)
138 N. Sunset Dr., Apt. 2, Winston-Salem 27101
Kenneth H. Chambers, M.D.[60] (OBG) (Pres., Old North State Med. Soc.) (704-377-0711)
700 E. Stonewall St., Ste. 220, Charlotte 28202
Kathleen A. Cline, M.D.[74] (EM) (Chmn., EM Sec.) (919-551-4757
1211 Red Banks Rd., Greenville 27834
Mary Ann Contogiannis, M.D.[41] (Chmn., Res. Phy. Sec.) (919-756-6143)
3529 Spicebush Tr., Greensboro 27410
John E. Cook, M.D.[70] (AN) (1st-C) (919-338-1542)
P.O. Box 96, Camden 27921
Daniel L. Crocker, M.D.[64] (ON/HEM) (4th-VC) (919-443-9084)
100 Nash Medical Arts Mall, Rocky Mt., 27801
Alfred L. Ferguson, M.D.[74] (NEP/IM) (2nd-C) (919-752-8880)
6 Doctors Pk., Greenville 27834
Samuel R. Fisher, M.D.[32] (HNS/OTO) (Chmn., OTO/MS Sec.) (919-684-4201)
Duke Medical Center, Box 3805, Durham 27710
D. Frank Fleming, M.D.[74] (N) (Chmn., N Sec.) (919-752-4848)
425 Stantonsburg Rd., Greenville 27834
Gary N. Foulks, M.D.[32] (OPH) (Chmn., OPH Sec.) (919-684-6417)
Duke Univ. Eye Center, Box 3802, Durham 27710
Douglas G. Freeman, Jr., M.D.[92] (RHU/AI) (Chmn., A/CI Sec.) (919-781-9633)
3831 Merton Dr., Raleigh 27609
Charles L. Garrett, Jr., M.D.[67] (PTH/FOP) (3rd-C) (919-353-3498
Onslow Memorial Hospital, Jacksonville 28540
Benjamin W. Goodman, M.D.[18] (FP) (9th-C) (704-328-2231)
24 Second Ave., NE, Hickory 28601
Gloria F. Graham, M.D.[98] (D) (4th-C) (919-291-5600)
702 Broad St., Wilson 27893
Clifford R. Guy, M.D.[34] (CD/IM) (8th-C) (919-768-4730)
250 Charlois Blvd., Winston-Salem 27103
J. Grayson Hall, M.D.[86] (FP) (8th-VC) (919-386-8270)
P.O. Box 158, Dobson 27017
John A. Henderson, M.D.[11] (GS) (10th-C) (704-254-2341)
117 Rathfarnham Cir., Asheville 28803
Charles L. Herring, M.D.[54] (IM) (2nd-VC) (919-523-0026)
310 Glenwood Ave., Kinston 28501
Charles A. Hoffman, Jr., M.D.[26] (U) (5th-C) (919-485-8801)
513 Owen Dr., Fayetteville 28304
Howard Holderness, Jr., M.D.[41] (PS/GS) (Chmn., PRS Sec.) (919-275-0919)
200 E. Northwood St., Ste. 400, Greensboro 27401
Harry S. Howell, M.D.[40] (GS/CDS) (Chmn., S Sec.) (919-886-4552)
624 Quaker Ln., Ste. 116-B, High Point 27262
Elizabeth P. Kanof, M.D.[92] (D) (6th-VC) (919-878-0310)
3400 Executive Dr., Raleigh 27609
Robert E. Lane, M.D.[21] (FP) (1st-VC) (919-426-5711)
P.O. Box 487, Hertford 27944
Richard V. Liles, Jr., M.D.[84] (FP) (7th-C) (704-982-9144)
320 Yadkin St., Albemarle 28001
F. Maxton Mauney, Jr., M.D.[11] (CDS/TS) (10th-VC) (704-258-1121)
257 McDowell St., Asheville 28803
Donald D. McNeill, Jr., M.D.[14] (PTH/CLP) (9th-VC) (704-754-7063)
Drawer 680, Lenoir 28645
William F. Milam, M.D.[23] (PTH) (7th-VC) (704-487-3147)
P.O. Box 1268, Shelby 28150
John F. Munroe, M.D.[24] (IM/END) (3rd-VC) (919-642-2230)
Baldwin Woods, S.W., Box 1249, Whiteville 28472
John S. Pace, M.D.[65] (AN) (Chmn., AN Sec.) (919-256-4008)
825 Inlet View Dr., Wilmington 28403
Raymond L. Sattler, M.D.[78] (NS) (Chmn., HMS Sec.) (919-738-7146)
314 Melrose Rd., Ste. 104, Fayetteville 28304
D. E. Scarborough, M.D.[92] (PTH) (Chmn., PTH Sec.) (919-755-8260)
Wake Co. Med. Ctr., 3000 New Bern Ave., Raleigh 27610
Robert P. Schwartz, M.D.[60] (PD/PDE) (Chmn., PD Sec.) (704-338-3156)
Charlotte Mem. Hospital, P.O. Box 32861, Charlotte 28232

Dale R. Shaw, M.D.[92] (DR) (Chmn., R/NM Sec.) (919-787-8199)
P.O. Box 19366, Raleigh 27619
Richard L. Taylor, M.D.[39] (FP) (6th-C) (919-693-3972)
1018 College St., Oxford 27565
Roy A. Weaver, M.D.[26] (PTH) (5th-VC) (919-323-6149)
P.O. Box 2000, Fayetteville 28302
Louis R. Wilkerson, M.D.[92] (OBG) (Chmn., OB/GYN Sec.) (919-832-5529)
100 S. Boylan Ave., Raleigh 27602
N. P. Zarzar, M.D.[92] (P) (Chmn., P Sec.) (919-782-0166)
3125 Glenwood Prof. Village, Bldg. H, Raleigh 27608

Consultants:
Mrs. Coleman Carter (Nancy) (Auxiliary, Res. Phy. Spouse Com. Chmn.) (704-366-2422)
1401 Cavendish Ct., Charlotte 28211
Mrs. Kenneth E. Cosgrove (Eleanor) (Auxiliary) (704-693-4963)
145 Cliff Terrace, Hendersonville 28739
Mrs. Hugh H. Hayes, Jr. (Imogene) Auxiliary, First Vice-President, Membership Chmn.) (704-366-5621)
5033 Gorham Dr., Charlotte 28211
Jack W. Wilkerson, M.D.[74] (FP) (919-752-7133)
P.O. Box 1966, Greenville 27834
Mrs. L. Dale Withers (Caroline) (Auxiliary, Members-At-Large Com. Chmn.) (919-484-7685)
150 Ellerslie Dr., Fayetteville 28303

Membership Services & Benefits Committee I-5 (14)
T. Reginald Harris, M.D.[23] (PUD/IM) (704-482-1482) **Chairman**
808 Schenck St., Shelby 28150
Jack W. Bonner, III, M.D.[11] (P) (704-254-3201)
Highland Hospital, P.O. Box 1101, Asheville 28802
John B. Clark, Jr., M.D.[60] (EM/IM) (704-371-4160)
3830 Silverbell Dr., Charlotte 28211
John T. Dees, M.D.[65] (FP/PH) (919-259-2161)
P.O. Box 815, Burgaw 28425
John A. Henderson, M.D.[11] (GS) (704-254-2341)
117 Rathfarnham Circle, Asheville 28803
Carl J. Hiller, M.D.[25] (ORS) (919-633-3256)
Drawer 1694, New Bern 28560
George W. James, M.D.[34] (D) (919-722-6155)
205 S. Hawthorne Rd., Winston-Salem 27103
Henry D. Jordan, M.D.[65] (PTH) (919-343-7074)
P.O. Box 9000, Wilmington 28402
Angus M. McBryde, Jr., M.D.[60] (ORS) (704-372-0743)
1012 Kings Dr., Ste. 101, Charlotte 28283
Thomas F. O'Brien, Jr., M.D.[74] (GE/IM) (919-551-4652)
ECU School of Medicine, Greenville 27834
Carl S. Phipps, M.D.[34] (END/IM) (919-765-1640)
3333 Silas Creek Parkway, Winston-Salem 27103
Kenneth S. Piech, M.D.[24] (PTH) (919-642-8011)
1211 Pinkney St., Whiteville 28472
Ernest B. Spangler, M.D.[41] (R) (919-854-6546)
Drawer X-3, Greensboro 27402
Howard E. Strawcutter, M.D.[78] (U) (919-738-6441)
P.O. Box 1408, Lumberton 28359

Mental Health Committee VI-4 (21) (4 Consultants)
Nicholas E. Stratas, M.D.[92] (P/HYP) (919-787-7125) **Chairman**
3900 Browning Pl., Ste. 201, Raleigh 27609
Wilmer C. Betts, M.D.[92] (P) (919-782-0166)
3125 Glenwood Prof. Village, Raleigh 27608
Jack W. Bonner, III, M.D.[11] (P) (704-254-3201)
Highland Hospital, P.O. Box 1101, Asheville 28802
Theodore R. Clark, M.D.[63] (P/N) (919-692-6471)
P.O. Box 56, Southern Pines 28387
Jascha W. Danoff, M.D.[74] (CHP/P) (919-551-2660)
ECU, Dept. of Psy. Med., Greenville 27858
A. Eugene Douglas, Jr., M.D.[78] (P) (919-738-8230)
209 W. 27th St., Lumberton 28358
A. Ray Evans, M.D.[74] (P) (919-758-4810)
1705 W. 6th St., Bldg. H, Greenville 27834
Richard R. Felix, M.D.[11] (P/PYM) (704-258-3880)
A-305 Doctor's Bldg., Asheville 28801
John H. Hall, Jr.[34] (ST) (BG) (919-724-4639)
300 S. Hawthorne Rd., Box 122, Winston-Salem 27103
George E. Hamilton, Jr., M.D.[34] (P) (919-725-7777)
908 Arbor Rd., Winston-Salem 27104
Barbara M. Jordan, M.D.[78] (P) (919-738-5261)
207 W. 29th St., Lumberton 28358
Paul T. Kayye, M.D.[92] (P/CHP) (919-733-7011)
Dept. of Human Resources, 325 N. Salisbury St., Raleigh 27611
Charles E. Llewellyn, Jr., M.D.[32] (P) (919-489-9808)
3550 Hamstead Ct., Durham 27707
Donald E. MacDonald, M.D.[90] (P) (704-289-5431)
1310 McCray St., Monroe 28110
Philip G. Nelson, M.D.[74] (P) (919-758-3145)
Medical Pavilion, Ste. 9, Greenville 27834
Barry S. Ostrow, M.D.[92] (P) (919-782-1366)
3049 Essex Circle, Bldg. A, Raleigh 27608
George E. Prince, M.D.[36] (PD) (704-866-3222)
3709 St. Regis Dr., Gastonia 28054
Richard D. Selman, M.D.[11] (P) (704-254-3201)
Highland Hospital, P.O. Box 1101, Asheville 28802
Ray G. Silverthorne, M.D.[7] (OBG) (919-946-5168)
Rt. 2, Box 35, Washington 27889
Charles R. Vernon, M.D.[65] (P) (919-256-4106)
7230 Wrightsville Ave., Wilmington 28403
Judith S. Yongue, M.D.[74] (P/FP) (919-355-2768)
107-C Commerce St., Greenville 27834

Consultants:
Sally Johnson, M.D. (919-575-4541)
617 Downpatrick Ln., Raleigh 27615
Mrs. Joseph D. Whisnant, Jr. (Betty Ann) (Auxiliary, Men. Health Com., Chmn.) (919-443-0146)
100 Bristol Ct., Rocky Mount 27103
Mrs. Wymene Valand (919-833-6076)
706 Woodburn Rd., Raleigh 27605
Richard H. Williams, Ph.D. (919-756-5346)
111 Cardinal Dr., Greenville 27834

33. Nominating Committee (10) (3-yr. term)
Gregory G. Holthusen, M.D.[34] (ORS) (8th) (1988) **Chairman** (919-768-1270)
P.O. Box 25007, Winston-Salem 27114
Thomas E. Goodin, III, M.D.[18] (AN) (9th) (1989) (704-322-0870)
610 Fairgrove Church Rd., Hickory 28610
Ira M. Hardy, M.D.[74] (NS) (2nd) (1990) (919-752-5156)
125 Moye Blvd., Greenville 27834
Edna Hoffman, M.D.[26] (OBG) (5th) (1989) (919-485-4755)
348 Valley Rd., Fayetteville 28305
N. Neil Howell, M.D.[60] (OTO/HNS) (7th) (1989) (704-365-0711)
3535 Randolph Rd., Charlotte 28211
Lyndon K. Jordan, M.D.[51] (FP) (4th) (1988) (919-934-7687)
P.O. Box 760, Smithfield 27577
John R. Kernodle, M.D.[1] (GYN) (6th) (1990) (919-584-7075)
2465 Edgewood Ave., Burlington 27215
Paul A. Kizen, M.D.[70] (OBG) (1st) (1988) (919-335-2061)
1142 N. Road St., Elizabeth City 27909
Charles T. McCullough, M.D.[11] (ORS) (10th) (1990) (704-254-9504)
129 McDowell St., Asheville 28801
Charles L. Nance, Jr., M.D.[65] (ORS) (3rd) (1989) (919-763-7334)
2001 S. 17th St., Wilmington 28401

34. N.C. Industrial Commission Liaison Committee IV-4 (25)
Thomas E. Castelloe, M.D.[92] (ORS) (919-781-5600) **Chairman**
P.O. Box 10707, Raleigh 27605
Kent T. Anderson, M.D.[98] (IM) (919-291-7001)
1704 S. Tarboro St., Wilson 27893
John T. Daniel, Jr., M.D.[32] (GS) (919-682-7378)
415 Dunstan St., Durham 27707
Michael J. Dimeo, M.D.[1] (PUD/IM) (919-226-7300)
1604 Memorial Dr., Burlington 27215
Randal D. France, M.D.[32] (P/PYM) (919-684-5518)
Duke Medical Center, Dept. of Psychiatry, Durham 27710
James S. Fulghum, III, M.D.[92] (NS) (919-832-4448)
3009 New Bern Ave., Raleigh 27610
Gregory S. Georgiade, M.D.[32] (PS/GS) (919-684-3039)
Duke Medical Center, Box 3960, Durham 27710
Benjamin W. Goodman, M.D.[18] (FP) (704-328-2231)
24 Second Ave., NE, Hickory 28601
Ralph L. Greene, Jr., M.D.[60] (IM) (704-365-0760)
3535 Randolph Rd., Charlotte 28211

Paul P. Gwyn, Jr., M.D.[34] (PS/GS) (919-765-8620)
2901 Maplewood Ave., Winston-Salem 27103
Donald M. Hayes, M.D.[41] (OM/IM) (919-379-4610)
3330 W. Friendly Ave., Greensboro 27410
Carl J. Hiller, M.D.[25] (ORS) (919-633-3256)
P.O. Drawer 1694, New Bern 28560
Julius Howell, M.D.[34] (PS/OTO) (919-760-1727)
1900 S. Hawthorne Rd., Ste. 480, Winston-Salem 27103
Jack A. Koontz, M.D.[74] (OM) (919-522-6100)
P.O. Box 800, Kinston 28501
Thomas J. Koontz, M.D.[34] (GS) (919-765-5221)
4250 Allistair Rd., Winston-Salem 27104
Raymond D. Kornegay, M.D.[92] (CDS/TS) (919-782-7900)
2800 Blue Ridge Blvd., Ste. 306, Raleigh 27607
Paul D. Long, M.D.[41] (ORS) (919-275-0927)
1505 Westover Terrace, Greensboro 27408
Sidney A. Martin, M.D.[92] (OM/FP) (919-782-0911)
3141 Essex Circle, Raleigh 27608
W. Fred McGuirt, M.D.[34] (OTO/ON) (919-748-4161)
300 S. Hawthorne Rd., Winston-Salem 27103
Charles L. Nance, Jr., M.D.[65] (ORS) (919-763-7344)
2001 S. 17th St., Wilmington 28401
Van B. Noah, M.D.[92] (OPH) (919-872-3242)
3900 Old Wake Forest Rd., Ste. 104, Raleigh 27609
J. Flint Rhodes, M.D.[92] (U) (919-781-7113)
2800 Blue Ridge Blvd., Ste. 403, Raleigh 27607
David T. Tayloe, Jr., M.D.[96] (PD) (919-734-4736)
2704 Medical Office Place, Goldsboro 27530
James A. Valone, M.D.[92] (PS/GS) (919-781-7430)
2800 Blue Ridge Blvd., Ste. 304, Raleigh 27607
Michael F. Yarborough, M.D.[92] (GS/TS) (919-876-2732)
3400 Executive Dr., Ste. 104, Raleigh 27609

35. Physicians Health & Effectiveness Committee VI-5 (27)
(2 Consultants)
Theodore R. Clark, M.D.[63] (P/N) (919-692-6471) **Chairman**
P.O. Box 56, Southern Pines 28387
Wilmer C. Betts, M.D.[92] (P) (919-782-0166)
3125 Glenwood Prof. Village, Raleigh 27608
Charles S. Betts, M.D.[76] (IM) (919-629-7710)
220-A Foust St., Asheboro 27203
Frederick A. Blount, M.D.[34] (PD) (919-724-3072)
2390 Coliseum Dr., Winston-Salem 27106
Martin L. Brooks, M.D.[78] (GP) (919-521-4221)
P.O. Box 37, Pembroke 28372
Stanley S. Burns, Jr., M.D.[60] (OTO) (704-372-3300)
1600 E. Third Ave., Charlotte 28204
Deborah M. Casey[34] (ST) (BG) (Chmn., Med. Stud. Sec.)
(919-724-4442)
138 N. Sunset Dr., Apt. 2, Winston-Salem 27101
Peter R. Coleman, M.D.[32] (RES) (FP) (919-929-2067)
207 Conner Dr., Apt. 22, Chapel Hill 27514
Mary Ann Contogiannis, M.D.[74] (Chmn., Res. Phy. Sec.)
(919-756-6143)
3529 Spicebush Tr., Greensboro 27410
A. Eugene Douglas, Jr., M.D.[78] (P) (919-738-8230)
209 W. 27th St., Lumberton 28358
Richard R. Felix, M.D.[11] (P/PYM) (704-258-3880)
A-305 Doctor's Bldg., Asheville 28801
Robert A. Fleury, M.D.[63] (P) (919-692-6471)
P.O. Box 56, Southern Pines 28387
Philip S. Herbert, Jr., M.D.[7] (P) (919-946-8061)
1308 Highland Rd., Washington 27889
Riley M. Jordan, M.D.[47] (FP) (919-875-5151)
116 Campus Ave., Raeford 28376
Julian Keith, M.D.[34] (FP) (919-748-2251)
Bowman Gray, Dept. of FP, Winston-Salem 27103
Jack A. Koontz, M.D.[74] (OM) (919-522-6100)
P.O. Box 800, Kinston 28501
Andrew Ku, M.D.[32] (DR) (919-681-2711)
311 S. LaSalle St., Apt. 36F, Durham 27705
Jonnie H. McLeod, M.D.[60] (PD) (704-597-2171)
Dept. of Human Services, UNC Charlotte Station,
Charlotte 28223
Charles T. Medlin, M.D.[92] (FP) (919-722-3266)
2000 Highway 70 W., Garner 27529
William J. Reid, M.D.[41] (FP) (919-274-6171)
2301 Danbury Rd., Greensboro 27408
J. Carson Rounds[74] (ST) (ECU) (919-355-7427)
104 Chesterfield Ct., #26, Greenville 27834
James H. Sanders, Jr., M.D.[88] (FP/GER) (704-884-9362)
P.O. Box 389, Brevard 28712
Christian F. Siewers, M.D.[26] (ORS/PM) (919-323-6036)
Southeastern Reg. Rehab. Ctr., Box 2000, Fayetteville 28302
J. David Stratton, M.D.[60] (OPH) (704-554-7176)
5150 Sharon Rd., Charlotte 28210
Charles R. Vernon, M.D.[65] (P) (919-256-4106)
7230 Wrightsville Ave., Wilmington 28403
Robert E. Williford, M.D.[76] (FP) (919-625-4000)
208 Foust St., Asheboro 27203
William B. Wood, M.D.[32] (IM/PUD) (919-962-2118)
UNC, 231 MacNider Bldg., Chapel Hill 27514

Consultants:
Mrs. Charles J. Niemeyer (Carolyn) (Auxiliary President-Elect)
(704-867-8180)
3421 Country Club Dr., Gastonia 28054
Mrs. Ralph E. Snyder (Jackie) (Auxiliary President)
(919-949-3166)
378-A Pine Ridge Dr., Whispering Pines 28327

36. Practice Pattern Variation Committee IV-5 (19)
(6 Consultants)
William W. Fore, M.D.[74] (END/IM) (919-551-2571) **Chairman**
ECU School of Medicine, Greenville 27858
Robert H. Bilbro, M.D.[92] (IM/CD) (919-782-1806)
3521 Haworth Dr., Raleigh 27609
Don C. Chaplin, M.D.[1] (IM/CD) (919-227-3621)
Kernodle Clinic, 316 Graham-Hopedale Rd., Burlington 27215
Lawrence M. Cutchin, M.D.[33] (IM/PD) (919-823-1607)
Rt. 3, Box 325, Tarboro 27886
James E. Davis, M.D.[32] (GS/TS) (919-471-8439)
2609 N. Duke St., Ste. 402, Durham 27704
John T. Dees, M.D.[65] (FP/PH) (919-259-2161)
P.O. Box 815, Burgaw 28425
J. Dewey Dorsett, Jr., M.D.[60] (IM/CD) (704-333-4175)
1851 E. Third St., Charlotte 28204
E. Harvey Estes, Jr., M.D.[32] (IM/CD) (919-471-2571)
407 Crutchfield St., Durham 27704
Monroe T. Gilmour, M.D.[60] (IM) (704-375-0287)
1300 Baxter St., Ste. 163, Charlotte 28204
John Glasson, M.D.[32] (ORS) (919-471-8431)
2609 N. Duke St., Ste. 301, Durham 27704
D. John Godehn, Jr., M.D.[45] (D) (704-693-0275)
506 Park Hill Ct., Ste. 1, Hendersonville 28739
Warner L. Hall, Jr., M.D.[92] (OBG) (919-782-1273)
P.O. Box 18568, Raleigh 27619
Carl B. Lyle, Jr., M.D.[32] (IM) (919-966-5945)
UNC, 145-A MacNider Bldg., 202-H, Chapel Hill 27514
F. Maxton Mauney, Jr., M.D.[11] (CDS/TS) (704-258-1121)
257 McDowell St., Asheville 28803
Philip L. Martin, M.D.[92] (OPH) (919-872-0572)
3320 Executive Dr., Ste. 210, Raleigh 27609
Eugene S. Mayer, M.D.[32] (GPM) (919-966-2461)
UNC, Wing C, 221-H, Box 3, Chapel Hill 27514
Edwin W. Monroe, M.D.[74] (IM) (919-551-4606)
ECU School of Medicine, Greenville 27834
Sarah T. Morrow, M.D.[92] (PH/PD) (919-851-9305)
3304 Wade Ave., Raleigh 27607
Thad B. Wester, M.D.[78] (PD/PH) (919-733-3446)
1001-101 Brighthurst Dr., Raleigh 27601

Consultants:
James D. Bernstein, Executive Director (919-821-0485)
NC Foundation for Alternative Health Programs, Inc.,
P.O. Box 10245, Raleigh 27605
Julian D. Bobbitt, Legal Counsel (919-821-1220)
P.O. Box 12807, Raleigh 27605
Sandra Greene, Ph.D. (919-489-7431)
BCBSNC, P.O. Box 2291, Durham 27702
Barbara Matula (919-733-2060)
Div. of Med. Assistance, 1985 Umstead Dr., Raleigh 27603

Charles Riddick, Executive Director (919-851-2955)
Medical Review of NC, Inc., P.O. Box 37309, Raleigh 27627
Wyatt (Pete) Roye, Director, Management Services (919-832-9550)
N.C. Hospital Association, P.O. Box 10937, Raleigh 27605

Procedures and Policies Committee I-6 (6)
Josephine E. Newell, M.D.[98] (FP) (919-733-7613) **Chairman**
Raleigh Towne, Apt. 47, 525 Wade Ave., Raleigh 27605
Jesse Caldwell, Jr., M.D.[36] (GYN) (704-865-0968)
1307 Park Lane, Gastonia 28052
John T. Dees, M.D.[65] (FP/PH) (919-259-2161) (Secretary)
P.O. Box 815, Burgaw 28425
Jack Hughes, M.D.[32] (U) (919-286-1297)
923 Broad St., Durham 27705
Rose Pully, M.D.[54] (FP) (919-523-2569)
318 College St., Kinston 28501
David G. Welton, M.D.[60] (D) (704-364-6110)
835 Hempstead Pl., Charlotte 28207

Professional Insurance Committee I-7 (20)
Julius A. Green, Jr., M.D.[92] (R) (919-781-8221) **Chairman**
P.O. Box 19366, Raleigh 27609
Richard H. Ames, M.D.[41] (NS) (919-288-0421)
2316 Princess Ann St., Greensboro 27408
H. Robert Brashear, Jr., M.D.[32] (ORS) (919-966-2030)
N.C. Memorial Hospital, Chapel Hill 27514
Paul L. Burroughs, Jr., M.D.[92] (ORS) (919-872-5296)
3410 Executive Dr., Raleigh 27609
F. Payne Dale, M.D.[54] (GS) (919-522-1626)
P.O. Box 1316, Kinston 28501
Courtland H. Davis, Jr., M.D.[34] (NS) (919-748-4083)
2525 Warwick Rd., Winston-Salem 27104
William W. Farley, M.D.[92] (PD) (919-782-8326)
3814 Browning Pl., Raleigh 27609
Charles L. Garrett, Jr., M.D.[67] (PTH/FOP) (919-353-3498)
Onslow Memorial Hospital, Jacksonville 28540
W. Blake Garside, M.D.[92] (PS) (919-872-2616)
1112 Dresser Ct., Raleigh 27609
Lewis J. Gaskin, M.D.[92] (AN) (919-781-7420)
P.O. Box 18139, Raleigh 27619
Charles M. Hassell, Jr., M.D.[41] (PTH/DMP) (919-379-4074)
1200 N. Elm St., Greensboro 27401
David H. Jones, M.D.[92] (OPH) (919-787-2758)
3900 Browning Pl., Raleigh 27609
William B. McCutcheon, Jr., M.D.[32] (TS/CDS) (919-383-5531)
1830 Hillandale Rd., Durham 27705
Willis E. Mease, M.D.[67] (FP) (919-324-3105)
209 S. Church St., Richlands 28574
John M. Roberts, Jr., M.D.[82] (OBG) (919-592-1414)
400 Cooper Dr., Clinton 28328
Frank Sabiston, Jr., M.D.[54] (GS/TS) (919-522-1626)
P.O. Box 1316, Kinston 28501
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P.O. Box 18946, Raleigh 27619
Nicholas E. Stratas, M.D.[92] (P/HYP) (919-787-7125)
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Edwin W. Monroe, M.D.[74] (IM) (919-551-4606)
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Alfredo L. Pauca, M.D.[34] (AN) (919-748-4473)
300 S. Hawthrone Rd., Winston-Salem 27103

Consultant:
Kathy Welch, R.N., (919-722-9355)
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James M. Love, M.D.[41] (N/IM) (919-275-0779)
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A. Thomas May, III[74] (ST) (ECU) (919-355-5287)
25-G Courtney Square, Greenville 27858
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209-C Branson St., Chapel Hill 27514
Kassell E. Sykes, Jr.[32] (ST) (UNC) (919-942-8492)
306 Estes Dr., G-11, Carrboro 27510
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125 Moye Blvd., Greenville 27834
Steven F. Wiegand, M.D.[92] (EM/FP) (919-848-9471)
10305 Whitestone Rd., Raleigh 27609

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2216 Dilworth Rd., W., Charlotte 28203
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1200 N. Elm St., Greensboro 27401
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COUNCILOR DISTRICTS
Constitution and Bylaws of the North Carolina Medical Society

Article VI — Section and District Societies

The House of Delegates may divide the scientific work f The Society into appropriate sections, and organize uch councilor district societies composed of members of omponent societies, as will promote the interests of the rofession.

Chapter VII — Councilor Districts

Section 1. To facilitate the organization of the medical profes- ion, the State of North Carolina hereby is divided by counties nto ten councilor districts as follows:

First District — Bertie-Gates-Hertford, Chowan-Perquimans, nd Pasquotank-Camden-Currituck-Dare.

Second District — Beaufort-Hyde-Martin-Washington-Tyrrell, Carteret, Craven-Pamlico-Jones, Lenoir-Greene and Pitt.

Third District — Bladen, Brunswick, Columbus, Duplin, New Hanover-Pender, Onslow and Sampson.

Fourth District — Edgecombe, Halifax, Johnston, Nash, Northampton, Warren, Wayne, and Wilson.

Fifth District — Cumberland, Harnett, Hoke, Lee, Moore, Richmond, Robeson, and Scotland.

Sixth District — Alamance-Caswell, Chatham, Durham-Orange, Franklin, Granville, Person, Vance, and Wake.

Seventh District — Anson, Cabarrus, Cleveland, Gaston, Lincoln, Mecklenburg, Montgomery, Rutherford, Stanley, and Union.

Eighth District — Alleghany, Ashe, Forsyth-Stokes-Davie, Guilford, Randolph, Rockingham, Surry-Yadkin, and Wilkes.

Ninth District — Alexander, Avery, Burke, Caldwell, Catawba, Davidson, Iredell, McDowell, Rowan, and Watauga.

Tenth District — Buncombe, Cherokee, Graham, Haywood, Henderson, Jackson, Macon-Clay, Madison, Mitchell-Yancey, Polk, Swain, and Transylvania.

ROSTER CODING KEY

CODING SYMBOLS

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† DOE, JOHN M., MD IM/GE 32
DEPT. OF MED. A P * AC
DUKE UNIVERSITY MEDICAL CENTER
DURHAM, NC 27710 919-684-0000

†	DECEASED
IM/GE	PRIMARY/SECONDARY SPECIALTY (SEE KEY BELOW)
32	COMPONENT SOCIETY CODE (SEE KEY BELOW)
A	AMA MEMBER
P	MEDPAC MEMBER
*	ATTENDED ANNUAL MEETING
AC	TYPE OF MEMBERSHIP (SEE KEY BELOW)

COMPONENT SOCIETY SECTION

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DEPART. OF MED. 59 60 64
DUKE UNIVERSITY MEDICAL CENTER
DURHAM, NC 27710 YALE
919-684-0000

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IM/GE	PRIMARY/SECONDARY SPECIALTY (SEE KEY BELOW)
AC	TYPE OF MEMBERSHIP (SEE KEY BELOW)
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60	YEAR LICENSED
64	YEAR JOINED SOCIETY
YALE	MEDICAL SCHOOL

SPECIALTY CODES

ADL	Adolescent Medicine
AM	Aerospace Medicine
A	Allergy
AI	Allergy & Immunology
AN	Anesthesiology
BLB	Bloodbanking
BE	Broncho-esophagology
CD	Cardiovascular Diseases
D	Dermatology
DMP	Dermatopathology
DIA	Diabetes
EM	Emergency Medicine
END	Endocrinology
FP	Family Practice
GE	Gastroenterology
GP	General Practice
GPM	General Preventive Medicine
GER	Geriatrics
GYN	Gynecology
HEM	Hematology
HYP	Hypnosis
IG	Immunology
ID	Infectious Diseases
IM	Internal Medicine
LAR	Laryngology
LM	Legal Medicine
NA	Neuropathology
NPM	Neonatal-Perinatal Medicine
ND	Neoplastic Diseases
NEP	Nephrology
N	Neurology
CHN	Neurology, Child
NM	Nuclear Medicine
NR	Nuclear Radiology
NTR	Nutrition
OBS	Obstetrics
OBG	Obstetrics and Gynecology
OM	Occupational Medicine
ON	Oncology
OPH	Ophthalmology
OT	Otology
OTO	Otorhinolaryngology
PTH	Pathology
CLP	Pathology, Clinical
FOP	Pathology, Forensic
RIP	Pathology, Radioisotopic
PD	Pediatrics
PDA	Pediatrics, Allergy
PDC	Pediatrics, Cardiology
PDE	Pediatric Endocrinology
PHO	Pediatric Hematology-Oncology
PNP	Pediatric Nephrology
PA	Pharmacology, Clinical
PM	Physical Medicine and Rehabilitation
P	Psychiatry
CHP	Psychiatry, Child
PYA	Psychoanalysis
PYM	Psychosomatic Medicine
PH	Public Health
PUD	Pulmonary Diseases
R	Radiology
DR	Radiology, Diagnostic
PDR	Radiology, Pediatric
TR	Radiology, Therapeutic
RHU	Rheumatology
RHI	Rhinology
ABS	Surgery, Abdominal
CDS	Surgery, Cardiovascular
CRS	Surgery, Colon and Rectal
PSF	Surgery, Facial Plastic
GS	Surgery, General
HS	Surgery, Hand
HNS	Surgery, Head and Neck
MFS	Surgery, Maxillofacial
NS	Surgery, Neurological
ORS	Surgery, Orthopaedic
PDS	Surgery, Pediatric
PS	Surgery, Plastic
TS	Surgery, Thoracic
TRS	Surgery, Traumatic
U	Surgery, Urological
VS	Surgery, Vascular
OS	Other Specialty

COMPONENT SOCIETY CODES

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3	ALLEGHANY
4	ANSON
5	ASHE
6	AVERY
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8	BERTIE-GATES-HERTFORD
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24	COLUMBUS
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TYPE OF MEMBERSHIP CODES

AC	ACTIVE
AF	AFFILIATE
AS	ASSOCIATE
H	HONORARY
S	STUDENT
R	RESIDENT
L	LIFE
L/RT	LIFE/RETIRED
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A Complete Management System Designed in Cooperation with Medical Professionals.

The reason for The Med-Care System's superior performance and simple operation is that we designed it in cooperation with the medical industry, not just systems programmers, but physicians, medical accountants and medical office managers — people with the real knowledge and understanding of medical office management.

Unless you have an insight into computers and software, selecting the right system as well as the proper support and training can be a difficult, time-consuming and very expensive experience. To make things easier on you, The Med-Care System was developed as a complete system. Everything you need — software, hardware, training and support — is included.

The Med-Care System comes complete with the Medical Office Management Program, Texas Instruments Micro or Mini System Computer with multiple work stations, printers and high capacity disk drives. Each system is tailored to the specific needs of your practice. And as your practice grows, Med-Care is flexible enough to grow with you.

The Texas Instruments Computers are expandable and support up to 128 workstations with the ability to expand storage as it is needed. They were selected for their price-performance and reliability in group practice environments.



Every Aspect of Your Practice Will Run More Efficiently.

Med-Care software is so versatile, you can tailor it to every management function in your practice. And even if you've never used a computer before, automating your practice with The Med-Care System is simple.

Med-Care's one-time data entry function is another time-saving feature. Because it's totally interactive throughout, you never need to enter the same data more than once.

Here are some of the ways Med-Care can improve the way you manage your practice:

- Speeds up insurance processing by handling multiple claims per patient and can transmit paperless claims to Medicare and major carriers.
- Improves staff management by maintaining information for multiple doctors and locations.
- Reduces collection time by tracing unpaid insurance claims.
- Increases efficiency by aging accounts and insurance pending files automatically.
- Eliminates paperwork by generating daily charge tickets and appointments.
- Increases cash flow by printing statements, medical reminders and collection letters.
- Improves patient service by providing instant access to each patient's medical records.
- Reduces paperwork by generating daily, monthly, or yearly receipt and charge reports by doctor, by procedure and by practice.

Med-Care's Person-To-Person Training: A Nice Way To Get Started.

Before you invest in a medical office management system, it's important to know what you're getting for your money. With The Med-Care System, what you get is more than hardware and software. You get the personal care and attention that has become a trademark of the people at Med-Care.

The moment your system arrives, the people at Med-Care will be there to guarantee a smooth, trouble-free start-up. They'll take you through an informative five-day practice clinic to ensure that everyone feels comfortable and confident with the new system. It's a nice way to get started.

But that's only the beginning. The people at Med-Care help you throughout the year. Our qualified customer service staff is specially trained on the Med-Care System. If you ever have trouble, they'll respond immediately.

We'd like to show you how simple it is to put Med-Care to work for your practice.

In just 30 minutes the system can be demonstrated at no cost or obligation to you. You'll get to see firsthand how The Med-Care System has helped many practices like yours to improve cash flow, increase productivity, and most importantly, improve the overall management of their patients.

All of these things are why Med-Care is the "No Risk" medical practice system for you.

Med-Care

6512 Six Forks Road, P.O. Box 19701
Raleigh, North Carolina 27615
NC 1–800–634–8016; USA 1–800–247–6094;
919–847–5110

Alphabetical List of Members for 1987-1988

The number in small type following each name indicates the component society under which the member is listed in the Roster by component societies.

HONORARY MEMBERS

Cole, Warren Henry ..... 704 254-4475 — 8 W. Kensington Road, Asheville, NC 28804
Greene, Robert Hadley ..... 704 332-7506 — 2001 Oaklawn Avenue, Charlotte, NC 28216
Jones, Frank Collins, Jr. ..... 704 586-6665 — Kilimanjaro Med. Ctr.
The Good Samaritan Foundation, Moshi, Tanzania, E. Africa
McConnachie, Charles C. ..... 704 692-5781 — 1027 Fleming Street, Hendersonville, NC 28739
Rambo, V. Birch ..... 341 Ponce de Leon NE, Atlanta, GA 30365
Rice, Edmond Lee ..... United Christian Hospital, Lahore, West Pakistan
Wilson, Frank Elmore ..... 615 986-6315 — Route #3, Leona Road, Lenoir City, TN 37771
Wynn, Roy Spurgeon ..... 704 332-2035 — 1721 Oaklawn Avenue, Charlotte, NC 28216

MEMBERS

(See Page 24 for Key to Specialties)

BBOTT, THOMAS DEAN FP 029
RIPPLE BLDG. PO BOX 120 A AC
WELCOME 27374 704 731-4006

BDA, SANDRA MARIE ORS 090
701 ROOSEVELT BLVD., BLDG 600 A AC
MONROE 28110 704 289-4595

BELL, JAMES CURTIS PD 049
925 THOMAS STREET AC
STATESVILLE 28677 704 872-9595

BERNATHY, DAVID SMITH /IM 012
341 E. PARKER ROAD AC
MORGANTON 28655 704 433-0225

BERNATHY, WILLIAM SHERWOOD CD /IM 032
2609 N. DUKE ST., STE, 403 A AC
DURHAM 27704 919 471-8441

BERNETHY, HENRY WALTER FP /IM 018
221 13TH AVE. PL. NW-FP A P AC
HICKORY 28601 704 322-5800

BERNETHY, MARY LISA 032
3534 ERICA WAY, CROWNE POINT A S
BIRMINGHAM, AL 35243

BERNETHY, PAUL MCBEE OPH 001
1214 VAUGHN ROAD A * AC
BURLINGTON 27215 919 228-0254

BERNETHY, WILLIAM BORDEN, JR. PD 036
610 DEERWOOD A AC
GASTONIA 28052 704 864-4298

BRAHAMS, STUART JOEL GYN 041
200 E. NORTHWOOD ST., STE. 216 A AC
GREENSBORO 27401 919 275-5391

BRAMS, MURRAY STANLEY GS 041
311 W. WENDOVER AVE. A AC
GREENSBORO 27408 919 275-8415

BSE, DAVID WILFRED P 032
ST. ALBANS HOSPITAL AC
RADFORD, VA 24143 804 977-1120

CKER, JEFFREY CHARLES 032
2209 MOREHEAD AVE., APT. #2 A S
DURHAM 27707 919 684-5154

CKERMAN, JAYNE A. IM /ADL 041
GOVE HEALTH CENTER AC
UNCG, GRAY DR.
GREENSBORO 27412 919 334-5340

DAIR, WILLIAM EDWARD, JR. GP /GS 043
P. O. BOX 578 A L
ERWIN 28339 919 897-5521

DAMS, BEVERLY J. S. PSF /HNS 032
1110 W. MAIN STREET A P AC
DURHAM 27701 919 682-9341

DAMS, CHARLES HUBERT FP 023
103 WATTERSON STREET A AC
KINGS MOUNTAIN 28086 704 739-3681

DAMS, ELIZABETH C. 032
200 CREST ST. APT. A-9 A S
CARRBORO 27510 919 967-7467

DAMS, HARLEY STEWART R 034
2710 ST. CLAIRE ROAD A L/RT
WINSTON-SALEM 27106 919 768-3555

ADAMS, HARRY GLENN IM /ID 074
DEPT. OF MEDICINE A AC
ECU SCHOOL OF MEDICINE
GREENVILLE 27834 919 551-2550

ADAMS, HARVEY GYN 076
230 FOUST STREET AC
ASHEBORO 27203 919 625-6128

ADAMS, LEON ASHBY OTO 098
1700 S. TARBORO ST. A AC
WILSON 27893 919 291-1300

ADAMS, MELANIE 034
300 S. HAWTHORNE RD., BOX 447 A S
WINSTON-SALEM 27103 919 760-2292

ADAMS, PATRICIA LEE NEP /IM 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4538

ADAMS, RICHARD WESLEY ORS 049
770 HARTNESS ROAD AC
STATESVILLE 28677 704 873-1851

ADAMS, SIMEON HUEY GS 036
902-G COX ROAD A AC
GASTONIA 28054 704 864-7821

ADAMS, WILLIAM CHAMBLISS PD 078
103 W. 27TH ST. AC
LUMBERTON 28358 919 739-3318

ADAMSON, WM. TALBOT 032
3222 COACHMAN'S WAY A S
DURHAM 27705 919 489-7372

ADCOCK, JIMMIE WARREN IM 060
217 TRAVIS AVE. A AC
CHARLOTTE 28204 704 372-3350

ADELMAN, JAMES U. N 041
1910 N. CHURCH STREET A P AC
GREENSBORO 27405 919 273-2511

ADELMAN, RICHARD D. FP 092
7320 SIX FORKS RD., STE. 260 AC
RALEIGH 27615 919 846-9292

ADER, OTTIS LADEAU PH 032
PO BOX 507 A L/RT
WALKERTOWN 27051 919 595-2251

ADERHOLDT, MARCUS LAFAYETTE PD 040
624 QUAKER LANE, SUITE 100-A A L
HIGH POINT 27262 919 882-4187

ADICKES, GEORGE CARTWRIGHT IM 060
1100 BLYTHE BOULEVARD A AC
CHARLOTTE 28203 704 338-4330

ADKINS, HENRY THOMAS, JR. R 060
2114 MARRYAT COURT A AC
CHARLOTTE 28211 704 371-4056

ADKINS, NEAL ASHLEY OBG 064
132 FOY DRIVE A AC
ROCKY MOUNT 27801 919 443-6622

ADKINS, TROGLER FRANCIS OBG 016
ROUTE #4, BOX 301-B A L/RT
NEWPORT 28570 919 726-6662

AGEE, ROBERT NELSON GS 007
302 S. MCCASKEY RD. AC
WILLIAMSTON 27892 919 792-1055

AGNER, MARSHAL EDWARD FP 036
609 E. ACADEMY ST. A P AC
PO BOX 159
CHERRYVILLE 28021 704 435-6058

AGNER, ROY AUGUSTA, JR. IM 080
611 MOCKSVILLE AVENUE A AC
SALISBURY 28144 704 633-7220

AGNER, ROY CHRISTOPHER IM 080
611 MOCKSVILLE AVENUE A AC
SALISBURY 28144 704 636-9820

AGSTEN, JOSEPH EDWARD FP 054
107 AIRPORT ROAD A AC
KINSTON 28501 919 527-4146

AHDIEH, MASOUD PD 077
302 HYLAN AVENUE A P AC
HAMLET 28345 919 997-7180

AHMAD, WAHAJ DIN N/IM 092
121 EDINBURGH SOUTH, STE. 210 A AC
CARY 27511 919 469-2010

AIKEN, HOVEY EUGENE, JR. PD 025
707 PROFESSIONAL DRIVE AC
NEW BERN 28560 919 633-2900

AIKEN, JANET CYBRYNSKI IM 036
1349-B E. GARRISON BLVD. A AC
GASTONIA 28054 704 861-0210

AIKEN, WARWICK, III IM 036
1349-B E. GARRISON BLVD. A AC
GASTONIA 28054 704 861-0210

AINSLEY, THELLIE RUPERT, JR. IM 053
1007 CARTHAGE ST. AC
SANFORD 27330 919 774-4343

AINSWORTH, KERRY H. OBG 076
1800 BACK CREEK CT. P AC
ASHEBORO 27203 919 626-2184

AITKEN, MARY ELIZABETH 032
308 BRIARBRIDGE VALLEY RD. A S
CHAPEL HILL 27514 919 929-7833

AIZCORBE, RAUL CESAR FP 036
79 MCADENVILLE ROAD A AC
BELMONT 28012 704 825-3101

AKERS, RICHARD EDWIN OPH 036
631 COX ROAD A AC
GASTONIA 28054 704 864-7789

AKERS, RICHARD ELBERT U 040
624 QUAKER LANE A AC
HIGH POINT 27262 919 886-5151

AKPELE, IGNATIUS ESE TS /VS 025
PO BOX 306 AC
NEW BERN 28560 919 633-1688

AKWARI, ANNE MICHEAUX OM /IM 032
IBM CORPORATION 657/205 A * AC
P. O. BOX 12195
RESEARCH TRIANGLE PK 27709 919 543-5508

AKWARI, ONYEKWERE E. GS 032
BOX 3076, DUMC A AC
DURHAM 27710 919 684-5509

ALBERGOTTI, JULIAN S., JR. OM /FP 060
SOUTHERN BELL MED. DEPT. A * AC
ROOM 414 SNC-PO BOX 30188
CHARLOTTE 28230 704 378-7320

ALBERS, CHARLES ALLEN GS 045
835 FLEMING STREET A AC
HENDERSONVILLE 28739 704 692-0238

ALBERTSON, DAVID ALLEN GS 034
BOWMAN GRAY A AC
DEPT. OF SURGERY
WINSTON-SALEM 27103 919 748-4442

ALBRIGHT, BENJAMIN PHILLIPS,JR IM 036
1896 REMOUNT ROAD A AC
GASTONIA 28054 704 867-0735

ALBRIGHT, HAROLD DOWE, III IM 060
1851 E. THIRD ST., SW #101 A AC
CHARLOTTE 28204 704 333-4175

ALCINI, JOHN JOSEPH, JR. DR /NM 083
SCOTLAND MEMORIAL HOSPITAL AC
LAURINBURG 28352 919 276-2121

ALDERMAN, ALLISON M., JR. FP 092
242 BRYAN BLDG. A AC
CAMERON VILLAGE
RALEIGH 27605 919 832-1205

ALDERMAN, EDWARD HATCHER IM /FP 051
P. O. BOX 278 A AC
FOUR OAKS 27524 919 963-3148

ALDRICH, HARRY RANDOLPH 032
BOX 31264, DUMC A R
DURHAM 27710 919 684-6761

ALEXANDER, BRIAN A. 034
217-B NEW DR. APT. D A S
WINSTON-SALEM 27103 919 722-7946

ALEXANDER, EBEN, JR. NS 034
BOWMAN GRAY SCH. OF MED. A * L
WINSTON-SALEM 27103 919 748-4082

ALEXANDER, H. ANTHONY IM 000
419 BROOKSIDE RD. A R
AUGUSTA, GA 30904 404 736-9901

ALEXANDER, HENCY C., JR. IM /PUD 060
5136 STRAWBERRY HILL DR. A RT
CHARLOTTE 28211 704 366-6499

ALEXANDER, JAMES FROSST IM /GE 060
3535 RANDOLPH ROAD A AC
CHARLOTTE 28211 704 365-0760

ALEXANDER, JAMES MOSES IM 060
255 COLVILLE RD. A L/RT
CHARLOTTE 28207 704 365-0760

ALEXANDER, JAMES PORTER IM /OM 060
DUKE POWER COMPANY A AC
P. O. BOX 33189
CHARLOTTE 28242 704 373-4329

ALEXANDER, JOSEPH BLACK IM 078
395 W. 27TH STREET A AC
LUMBERTON 28358 919 739-7551

ALEXANDER, LAWRENCE MELTON FP 053
555 CARTHAGE STREET A AC
SANFORD 27330 919 774-6518

ALEXANDER, MARGARET C. R 018
RT. #3, BOX 331, STE. 26A A AC
FAIRGROVE PROF. BLDG.
HICKORY 28601 704 327-6342

ALEXANDER, WILLIAM MCKINLEY IM 045
P. O. BOX 627 L/RT
HENDERSONVILLE 28739 704 692-7201

ALFORD, JAMES DAVID GS /TS 049
427 E. STATESVILLE AVENUE A P AC
MOORESVILLE 28115 704 663-4065

ALI, SHAMSHAD PD /NPM 059
1200 MEDICAL CTR. #B AC
MARION 28752 704 652-6386

ALKHALDI, AOUS SALIM R 039
104 TRANQUIL CIRCLE A AC
OXFORD 27565 919 693-5115

ALLAN, JAMES THOMAS, JR. R 036
3705 PRINCETON DRIVE A AC
GASTONIA 28054 704 866-2948

ALLEN, CYRIL ANTHONY IM /HEM 092
P. O. BOX 14005 AC
RALEIGH 27620 919 828-3466

ALLEN, DAVID GEOFFREY ON /ON 063
PINEHURST MEDICAL CLINIC A AC
PO BOX 551
PINEHURST 28374 919 295-5511

ALLEN, DAVID HENRY CHP /P 034
1334 ASHLEY SQUARE AC
WINSTON-SALEM 27103 919 765-1866

ALLEN, ELIZABETH P 032
3333 CHAPEL HILL BOULEVARD AC
DURHAM 27707 919 489-3889

ALLEN, ELMS LEACH HEM /ON 034
3314 HEALY DR. STE. 107 A AC
WINSTON-SALEM 27103 919 768-2521

ALLEN, FRED HUNTLEY, JR. N 060
2608 E. SEVENTH ST. A AC
CHARLOTTE 28204 704 377-9323

ALLEN, JAMES LATHAN OBG 032
1821 GREEN STREET A AC
DURHAM 27705 919 286-1258

ALLEN, JOANNE BELL 034
PO BOX 448 A S
300 S. HAWTHORNE RD.
WINSTON-SALEM 27103 919 777-8288

ALLEN, JOHN O. HENRY FP /IM 059
31 STATE ST. AC
PO BOX 1189
MARION 28752 704 652-5251

ALLEN, LEROY NS 092
3009 NEW BERN AVE. A AC
PO BOX 14027
RALEIGH 27620 919 832-4448

ALLEN, LOUIS DAVID PD 092
3001 ESSEX CIRCLE A AC
RALEIGH 27608 919 782-0021

ALLEN, MOLLY VIRGINIA OPH 065
1120 MEDICAL CENTER DR. A AC
WILMINGTON 28401 919 763-7316

ALLEN, ROBERT LEE NS 092
3009 NEW BERN AVE. A AC
PO BOX 14027
RALEIGH 27620 919 832-4448

ALLEN, RODNEY H. OBG /END 032
602 THE OAKS A P * S
CHAPEL HILL 27514 919 929-5745

ALLEYNE, GRANT LIVINGSTONE OBG 026
P. O. BOX 64838 A P AC
FAYETTEVILLE 28306 919 323-2767

ALLF, BRYAN EWING 032
1711 SHAWNEE STREET A S
DURHAM 27701 919 683-1099

ALLGOOD, JOHN WILLIAM, JR. IM 041
1503 PEBBLE DR. A L/RT
GREENSBORO 27410 919 292-2196

ALLIGOOD, DAVID BLAIR 034
1821 ELIZABETH AVE. A S
WINSTON-SALEM 27103 919 723-6041

ALLIGOOD, GILBERT R., JR. IM /PD 074
1110 ARLINGTON BLVD. A R
GREENVILLE 27834 919 756-8423

ALLIGOOD, TOBY RAY D/IM 007
1110 HIGHLAND DRIVE AC
WASHINGTON 27889 919 946-4176

ALLISON, E. JACKSON, JR. EM 074
ECU, DEPT. OF EMERG.MED. A AC
GREENVILLE 27834 919 551-4757

ALMARIO, JOSELITO U 008
500 N. ACADEMY ST. AC
AHOSKIE 27910 919 332-6444

ALMIRALL, PETER DAVID FP /OM 010
OAK ISLAND MEDICAL CENTER AC
307 YAUPON DR.
YAUPON BEACH 28461 919 278-3316

ALMKUIST, RALPH DURWOOD, II NEP /IM 065
1302 MEDICAL CENTER DRIVE A P AC
WILMINGTON 28401 919 763-3651

ALMOND, CHARLES MALCOLM FP 065
1602 DOCTOR'S CIRCLE A P AC
WILMINGTON 28401 919 763-5471

ALMQUIST, PERRY F. PD 060
1700 ABBEY PLACE A AC
CHARLOTTE 28209 704 523-7232

ALPERT, ERIC DAVID R 060
3535 RANDOLPH ROAD AC
CHARLOTTE 28211 704 365-0343

ALQAISI, MUNTHER E. ON 074
ECU SCHOOL OF MED. A AC
DEPT.OF RADIATION ONCOLOGY
GREENVILLE 27834 919 551-2900

ALSENTZER, ULRICH KARL PM 074
REGIONAL REHABILITATION CTR. A AC
P. O. BOX 6028
GREENVILLE 27834 919 551-4440

ALSON, ROY LEE EM 034
4447 LAUREL OAKS DR. R
ALLISON PARK, PA 15101 412 359-3131

ALSTON, MICHAEL CURTIS FP 0(
405 HOLLY HILL RD. A(
MURFREESBORO 27855 919 398-51(

ALSUP, ROBERT MARTIN OTO 0(
175 CHARLOIS BLVD., STE. 101 A A(
WINSTON-SALEM 27103 919 768-33(

ALSUP, WILLIAM BYRN, JR. OTO 0(
261 WESTVIEW DR. SW A L/F
WINSTON-SALEM 27104 919 724-04(

ALTANY, FRANKLIN EDWARD PS 0(
2027 RANDOLPH ROAD A A(
CHARLOTTE 28207 704 377-30(

ALTHEIMER, MICHAEL D. END /IM 0(
1022 PROFESSIONAL VILL. A A(
GREENSBORO 27401 919 378-10(

ALTSHULLER, LILLIS FLATMAN PD 0(
1301 FAYETTEVILLE ST. A(
DURHAM 27707 919 683-13(

ALVA, JUAN GE /IM 0(
609 VICKERS AVENUE A(
DURHAM 27701 919 688-47(

ALVARADO, TERESA LOIS OBG 0(
200 MEMORIAL DR. A A(
JACKSONVILLE 28540 919 353-21(

ALVERSON, LISA KAY 0(
375-A UMSTEAD DR.
CHAPEL HILL 27514 919 967-85(

ALYEA, EDWIN PASCAL, III 0(
2211 MOREHEAD AVE. #3 A
DURHAM 27707 919 495-56(

AMAYA, MARCELINO CHP /P 0(
2928 FRIENDSHIP ROAD A A(
DURHAM 27705 919 575-76(

AMEEN, WILLIAM OTIS, JR. FP /EM 0(
P. O. BOX 9925 A A(
2304 CANNONBALL ROAD
GREENSBORO 27408 919 282-11(

AMES, DAVID ANTHONY P 0(
313 LONGMEADOW ROAD A(
GREENVILLE 27834 919 752-71(

AMES, RICHARD HAIGHT NS 0(
2316 PRINCESS ANN ST. A * L/F
GREENSBORO 27408 919 288-04(

AMMAR, MOHAMED IBRAHIM OBG 0(
P. O. BOX 468 A A(
KENANSVILLE 28349 919 296-16(

AMSELLEM, DAVID P 0(
GOOD HOPE HOSPITAL A P A(
PO BOX 668, DENIM DR.
ERWIN 28339 919 897-61(

ANAGNOS, DAMON PHILIP 0(
832 LOCKLAND AVE. A
WINSTON-SALEM 27103 919 724-98(

ANAGNOST, JOHN WILLIAM IM /HEM 0(
1515 DOCTORS CIRCLE A A(
WILMINGTON 28401 919 763-51(

ANDERSEN, SUSAN HOLLAR 0(
1201 KENAN ST. A
WILSON 27893 919 747-81(

ANDERSON, CARL ELVING P 0(
1702 VISTA ST. A
DURHAM 27701 919 688-53(

ANDERSON, DAVID DIXON ORS 0(
P. O. BOX 313
MARS HILL 28754 919 487-11(

ANDERSON, DUDLEY BUIST ON /HEM 0(
1700 S. TARBORO ST. A P A(
WILSON 27893 919 291-13(

ANDERSON, EDWARD EVERETT U 0(
DUKE UNIVERSITY MEDICAL CTR. A A(
DURHAM 27710 919 684-34(

ANDERSON, ELBERT CARL OPH 0(
3208 OLEANDER DR. A L/F
WILMINGTON 28403 919 763-62(

ANDERSON, JAMES DICK OBG 0(
1023 EDGEHILL ROAD, SOUTH A A(
CHARLOTTE 28207 704 373-15(

ANDERSON, JAY ARTHUR AN 0(
4114 LIVINGSTONE PLACE A
DURHAM 27707 919 489-21(

ANDERSON, JOHN B., JR. FP 0(
1018 COLLEGE STREET * A(
OXFORD 27565 919 693-39(

ANDERSON, KENT THOMAS IM 0(
1704 S. TARBORO ST. A A(
WILSON 27893 919 291-70(

NDERSON, LANDON BUTLER ORS 065
1222 MEDICAL CENTER DRIVE A AC
WILMINGTON 28401 919 763-2977

NDERSON, LARRY GLENN ORS 012
2203 STERLING ST. A P AC
MORGANTON 28655 704 437-6500

NDERSON, PAGE ALBERT WILLIS PDC 032
BOX 3218, DUKE MEDICAL CTR. AC
DURHAM 27710 919 684-2538

NDERSON, RICHARD DAWSON R/NM 060
2001 VAIL AVE. A AC
CHARLOTTE 28207 704 379-5860

NDERSON, ROBERT LOUIS OBG 034
301 CENTRAL ROAD AC
CLEMMONS 27012 919 760-0444

NDERSON, STEPHEN GRIFFITH OBG 034
2927 LYNDHURST AVENUE A AC
WINSTON-SALEM 27103 919 765-9350

NDERSON, WILLIAM BANKS, JR. OPH 032
DUKE UNIVERSITY EYE CENTER A * AC
DURHAM 27710 919 684-3343

NDERSON,TERESA T. 032
104 SILO COURT A S
CARY 27511 919 481-1752

NDRACCHIO, VINCENT CHARLES AN 064
3709 WESTRIDGE CIRCLE DR. AC
ROCKY MOUNT 27804 919 443-8038

NDRESEN, JEFFRY JOHN PYA /P 032
NCMH,234 WING C-PSYCHIATRY A AC
CHAPEL HILL 27514 919 966-3378

NDREW, RAYMOND HALL P 034
779 OAKLAWN AVE. A AC
WINSTON-SALEM 27104 919 768-4730

NDREW, WALLACE F., JR. ORS /HS 092
3515 GLENWOOD AVE. A AC
PO BOX 10707
RALEIGH 27605 919 781-5600

NDREWS, BOB BARCUS PTH 078
P. O. BOX 847 A AC
LUMBERTON 28359 919 738-6441

NDREWS, D. SCOTT CDS /TS 060
1900 RANDOLPH RD. STE. 206 A AC
CHARLOTTE 28207 704 372-1306

NDREWS, ELLEN N/P 063
PO BOX 1749 AC
PINEHURST 28374 919 295-6868

NDREWS, LEON POLK IM 065
1902 DRUID LANE A RT
WILMINGTON 28403 919 343-0167

NDREWS, PAUL STEPHEN OBG 032
2609 N. DUKE ST. STE. 204 A AC
DURHAM 27704 919 471-8402

NDREWS, ROBERT JACKSON IM 065
5305 WRIGHTSVILLE AVENUE A * AC
WILMINGTON 28403 919 791-2626

NDREWS, ROBERT WILLIAM U 032
923 BROAD ST. A AC
DURHAM 27705 919 286-1297

NDREWS, SUSAN DEBORAH FP 032
2314 WILSON STREET R
DURHAM 27705 919 286-4079

NDREWS, THOMAS J. P 045
1612 ASHEVILLE HWY, STE. 4 A AC
HENDERSONVILLE 28739 704 697-2673

NDREWS, VERNON LILES FP 062
RT. #2, BOX 2049-A A L/RT
MOUNT GILEAD 27306 919 439-5516

NDRINOPOULOS, GEORGE C. OBG /NPM 060
1900 RANDOLPH RD. STE. 804 P AC
CHARLOTTE 28207 704 372-5800

NDRUS, THOMAS ROSS, JR. D 092
6104 VALLEY FIELD CIRCLE A AC
RALEIGH 27612 919 782-3782

NEJA, BELA LAROIA IM 074
210 CHURCHILL DRIVE A R
GREENVILLE 27834 919 756-4147

NGELILLO, JOHN CHARLES MFS 032
DUKE MEDICAL CENTER A AC
DIV. OF PLASTIC SURGERY
DURHAM 27710 919 684-2943

NGELO, JEAN NICHOLAS NA /PTH 034
BOWMAN GRAY, DEPT. OF PTH A AC
WINSTON-SALEM 27103 919 748-4311

NLYAN, WILLIAM GEORGE GS 032
BOX 3701, DUMC A AC
DURHAM 27710 919 684-3438

ANTHONY, LUTHER LESLIE, JR. IM /CD 036
1896 REMOUNT ROAD A AC
GASTONIA 28054 704 867-0736

ANTLEY, CATHERINE M. 032
1119 HILLCREST ROAD A S
CHAPEL HILL 27514 919 968-1172

ANTLEY, RAY M., SR. R 012
2201 S. STERLING ST. A AC
MORGANTON 28655

ANTONAKOS, THEODORE GS 034
P. O. BOX 8 A L
DANBURY 27016 919 593-8276

ANTHONY, JOSE KANDANATT CD 042
238 OLD FARM ROAD AC
P.O. BOX 1175
ROANOKE RAPIDS 27870 919 537-9268

ANTOSZYK, ANDREW NICHOLAS OPH 032
3116 STANFORD DRIVE A R
DURHAM 27707 919 489-3937

APLINGTON, JAMES PAGE ORS 041
315 W. WENDOVER AVENUE A AC
GREENSBORO 27408 919 275-0724

APPERT, ROBERT ALBERT ORS 098
1700 S. TARBORO STREET A AC
WILSON 27893 919 291-1300

APPLER, MARK LEE GE /IM 086
P. O. BOX 1547 A AC
MT. AIRY 27030 919 786-6196

AQUADRO, CHARLES FRASURE GP /OM 016
326 FRONT STREET * AC
BEAUFORT 28516 919 728-5141

ARANA, GUILLERMO FERNANDO FP /PTH 092
975 WALNUT ST., STE. 255 AC
CARY 27511 919 467-4141

ARCHIE, JOSEPH PATRICK, JR. CDS 092
3020 NEW BERN AVE. #560 A AC
RALEIGH 27610 919 781-5335

ARENA, JAY MORRIS PD 032
DUKE HOSPITAL, BOX 3024 A * L
DURHAM 27710 919 684-6138

ARENDALE, STEPHEN SYDNES DR /NM 011
STE. 301, 445 BILTMORE CENTER A AC
ASHEVILLE 28801 704 254-2371

AREY, JOHN VINCENT GYN 013
1054 BURRAGE ROAD, N. E. A AC
CONCORD 28025 704 788-4151

ARI, ABDULLAH NECIP OBG 055
300 LABANS LANE A AC
LINCOLNTON 28092 704 732-0777

ARIAIL, JERRY NOLAN D 011
390 S. FRENCH BROAD AVE. A * AC
ASHEVILLE 28801 704 252-3576

ARKIN, ROY MARC GS 041
721 GREEN VALLEY RD. A AC
GREENSBORO 27408 919 275-2889

ARMISTEAD, HOWARD LACY,JR. FP /OM 065
2108 S. SEVENTEENTH STREET A AC
WILMINGTON 28401 919 762-7776

ARMISTEAD, RAY BAXTER ORS 025
TRIANGLE PLAZA A AC
P. O. BOX 1694
NEW BERN 28560 919 633-3256

ARMSTRONG, BEVERLY WELLER OT 060
3034 HAMPTON RD. A L/RT
CHARLOTTE 28207 704 377-2267

ARMSTRONG, BRUCE GRIFFEY U 011
1 DOCTOR'S PARK A AC
ASHEVILLE 28801

ARMSTRONG, MICHAEL, JR. 032
4335-B AMERICAN DR. A S
DURHAM 27705

ARNEY, GERALD WAYNE DR 036
GASTON RAD.MED. BLDG. A AC
P. O. BOX 1495
GASTONIA 28052 704 864-4378

ARNEY, WILLIAM CHARLES FP 012
214 WEST PARK DR. A L/RT
MORGANTON 28655 704 437-2972

ARNOLD, GORDON BRUCE IM 040
624 QUAKER LANE, STE. 213-B A AC
HIGH POINT 27262 919 883-4132

ARNOLD, ROBERT EDGAR FP 060
10724 PARK RD. A AC
CHARLOTTE 28210 704 542-6577

ARNOLD, TERRY VINCENT IM 029
13 MEDICAL PARK DR. A P AC
LEXINGTON 27292 704 249-7051

ARRINGTON, JOHN HODGE, III PTH /DMP 041
1608 VALLEYMEDE A AC
GREENSBORO 27410 919 379-4073

ARROWOOD, JOHN P., JR. 034
2307-D CLOVERDALE AVE. A * S
WINSTON-SALEM 27103 919 724-7794

ARTHUR, ROBERT KEY OBG 040
P. O. BOX 5128 A AC
HIGH POINT 27262 919 887-3011

ARTIS, ISAAC AMOS, JR. IM 074
114 ROANOKE PLACE AC
P. O. BOX 7304
GREENVILLE 27834 919 756-6986

ASHBURN, PHILIP EUGENE IM /GE 092
3100 BLUE RIDGE RD. #300 A P AC
RALEIGH 27612 919 781-7500

ASHFORD, CHARLES H., JR. 025
800 HOSPITAL DRIVE AC
NEW BERN 28560

ASHLEY, GALE JACKSON FP 003
DOCTOR'S OFFICE BUILDING AC
SPARTA 28675 919 372-4644

ASKAR, ABDULLAH ONSY P/FP 032
H-STREET, #33 A R
BUTNER 27509 919 575-9005

ASKARY, NASSER AGHA OBG /END 077
PO BOX 1715 A AC
ROCKINGHAM 28379 919 997-3151

ASKEW, ANNE PRESTON PD 092
4016 BARRETT DR., STE. 101 A AC
RALEIGH 27609 919 781-2438

ASRAEL, GERSON U 060
1350 KINGS DRIVE AC
CHARLOTTE 28207 704 372-8750

ASSEVERO, MICHAEL LAWRENCE OBG 065
1502 PRINCESS ST. A AC
WILMINGTON 28401 919 762-8662

ASSIMOS, DEAN GEORGE U 034
BOWMAN GRAY SCH. OF MEDICINE A AC
WINSTON-SALEM 27103 919 748-4131

ATASSI, INAD BADREDDIN NS 026
101 ROBESON ST. STE. 410 A AC
FAYETTEVILLE 28301 919 483-5050

ATCHLEY, WILLIAM D. IM 054
109 AIRPORT RD. A AC
KINSTON 28501 919 522-3661

ATHEY, GEORGE RICHARD IM 074
3004 BRIARCLIFF DRIVE A S
GREENVILLE 27834 919 756-8793

ATKINS, JAMES NORMAN ON /IM 096
201 COX BOULEVARD AC
GOLDSBORO 27530 919 734-9455

ATKINS, WILLIAM SHAFFER OPH 095
907 STATE FARM ROAD AC
BOONE 28607 704 262-1554

ATKINSON, ALVAN WILLIAM CDS /TS 092
3400 EXECUTIVE DR. STE. 102 A P AC
RALEIGH 27609 919 872-8080

ATKINSON, SAMUEL MARVIN, JR. OBG 074
1401 E. FIFTH ST. A AC
GREENVILLE 27858 919 551-4669

ATSTUPENAS, ELIOT ANTHONY 032
STRATFORD HILLS APTS. 12-D A S
CHAPEL HILL 27514 919 929-9907

ATWATER, JOHN SPENCER, JR. A/PD 011
390 S. FRENCH BROAD AVE. A * AC
ASHEVILLE 28801 704 254-5366

AU, VICTOR K. PS 001
1214 VAUGHN RD., STE. B A * AC
BURLINGTON 27215 919 227-5440

AUL, CHRISTOPHER TAYLOR FP 026
4092 PROFESSIONAL DR. AC
HOPE MILLS 28348 919 424-0123

AUMAN, EDWIN LEWIS IM 040
624 QUAKER LANE, SUITE 210-A A P AC
HIGH POINT 27262 919 841-8822

AUMAN, GEORGE LOUIS PD 092
3900 BROWNING PLACE AC
RALEIGH 27609 919 787-0266

AUSTIN, ERLE HARRIS, III CDS /TS 074
DIV. OF CARDIAC SURGERY A AC
ECU SCHOOL OF MEDICINE
GREENVILLE 27834 919 551-4822

AUSTIN, FREDERICK DA COSTA,III IM /ID 007
615 E. 12TH STREET AC
WASHINGTON 27889 919 946-2101

AUSTIN, HENRY VANN RHU 063
PINEHURST MEDICAL CLINIC A AC
PO BOX 551
PINEHURST 28374 919 295-5511

AUSTIN, ROBERT GRAY, JR. OPH 090
1410 FRANKLIN ST., EAST A AC
MONROE 28110 704 289-5455

AUSTIN, STEPHEN BRAWNER IM 045
414 N. CHURCH STREET A P AC
HENDERSONVILLE 28739 704 693-1768

AUSTIN, WALTER KENNETH, JR. CD 060
1960 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 373-1503

AUSTIN, WILLIAM ELLIOT GE /IM 034
1830 HAWTHORNE ROAD A AC
WINSTON-SALEM 27103 919 765-0463

AVERETT, LELAND STANLEY, JR. FP 040
700 N. ELM STREET AC
HIGH POINT 27262 919 882-1324

AVERY, ELEANOR ELIZABETH 074
RT. #2, BOX 305 A * S
GREENVILLE 27834 919 752-0569

AVERY, FRANK WALTON PTH 092
RALEIGH COMMUNITY HOSP. A AC
PO BOX 28280
RALEIGH 27611 919 872-4800

AYCOCK, PERRY WILLIAM, JR. IM /GE 036
1896 REMOUNT ROAD A AC
GASTONIA 28054 704 867-0735

AYCOCK, WILLIAM GLENN FP 001
202 S. FIFTH STREET A AC
MEBANE 27302 919 563-9341

AYERS, JAMES SALISBURY FP 082
PROFESSIONAL BUILDING A L
CLINTON 28328 919 592-2541

AYSCUE, LANIER HASTY 032
813 EMORY DR. A S
CHAPEL HILL 27514 919 968-0516

AZZATO, JOHN ANTHONY ORS 010
112 N. HOWE STREET A * AC
SOUTHPORT 28461 919 457-4789

BACH, PHILIP JOHN ORS 060
120 PROVIDENCE ROAD A AC
CHARLOTTE 28207 704 377-0351

BACHL, FREDERICK JOSEPH PD 080
720 GROVE STREET AC
SALISBURY 28144 704 636-5576

BACHMAN, DAVID STANLEY N/CHN 065
1202 MEDICAL CENTER DR. AC
WILMINGTON 28401 919 341-3359

BACON, DAVID SCOTT 032
311 S. LASALLE ST. 49H A S
DURHAM 27705 919 286-7883

BACON, HAROLD LYLE GP 087
948 RICHMOND A L
BRYSON CITY 28713 704 488-2105

BADAWI, RAOUF FAHMY P 041
522 N. ELAM AVE., STE. 203 AC
GREENSBORO 27403 919 854-2391

BAGGETT, HENRY CLIFFORD OTO 064
2420 PROFESSIONAL DR. A P * AC
P. O. BOX 7099
ROCKY MOUNT 27804 919 937-4100

BAGGETT, JOHN ROBERT IM 025
702 NEWMAN ROAD A AC
MCCARTHY SQUARE
NEW BERN 28560 919 633-5333

BAGGETT, JOSEPH WOODROW OBG 026
P. O. BOX 53514 L
FAYETTEVILLE 28305 919 485-1191

BAGLEY, CARTER SNOW OTO /HNS 011
131 MCDOWELL STREET A AC
ASHEVILLE 28801 704 254-3517

BAGWELL, ROBERTA L. 034
1811 ELIZABETH AVE. A S
WINSTON-SALEM 27103 919 722-3154

BAHNSON, EDWARD REID IM /OM 034
2725 WINDSOR ROAD A L/RT
WINSTON-SALEM 27104 919 768-7784

BAILEY, CLARENCE ALMON, JR. PD /AI 032
1824 HILLANDALE ROAD AC
DURHAM 27705 919 286-2202

BAILEY, CLAUDE FLETCHER OBG 070
1142 N. ROAD STREET A AC
ELIZABETH CITY 27909 919 338-3914

BAILEY, GEORGE TILLMAN DR 064
212 OLD COLONY WAY P AC
ROCKY MOUNT 27801 919 443-8083

BAILEY, HILDA HART PD 080
102 MOCKSVILLE AVENUE A AC
SALISBURY 28144 704 633-3727

BAILEY, JOHN BENNETT PD 011
131 MCDOWELL STREET AC
ASHEVILLE 28801 704 254-4337

BAILEY, JOHN RICHARD OPH 078
205 W. 29TH STREET A AC
LUMBERTON 28358 919 738-4856

BAILEY, ROBERT WOODWARD FP 045
611 FIFTH AVE. WEST AC
HENDERSONVILLE 28739 704 697-1508

BAIRD, HARRY HAYNES U 060
1012 KINGS DRIVE A L
CHARLOTTE 28283 704 334-6449

BAIRD, HAYNES WALLACE PTH /CLP 041
1200 N. ELM STREET A AC
GREENSBORO 27401 919 379-4074

BAIRD, JAMES HAMILTON OBG 001
1624 MEMORIAL DRIVE A AC
BURLINGTON 27215 919 226-7386

BAKER, BERNIE BALLINGTON, SR. OBG 021
EDENTON OB-GYN CENTER,PA A AC
P. O. BOX 990
EDENTON 27932 919 782-7407

BAKER, CHARLES SCOTT, III FP 074
RT. #1, BOX 93 AC
GREENVILLE 27834 919 747-2921

BAKER, DAVID STANFORD, II ORS /HS 060
2600 E. 7TH ST. A AC
PO BOX 35228
CHARLOTTE 28235 704 372-9820

BAKER, EDGAR FP 045
510-A FLEMING STREET AC
HENDERSONVILLE 28739 704 693-9973

BAKER, HERBERT MARVIN FP 079
546 MORGAN ROAD A AC
EDEN 27288 919 627-1129

BAKER, HORACE MITCHELL,JR. GS 078
P. O. BOX 1171 AC
LUMBERTON 28358 919 738-8571

BAKER, JOAN MARGO OBG 054
105 AIRPORT RD. AC
KINSTON 28501 919 523-8383

BAKER, JOHN HARRISON OBG 092
P AC
WILLIAMSBURG, VA

BAKER, JOHN WOODWARD EM /IM 060
CHARLOTTE MEMORIAL HOSPITAL AC
P. O. BOX 32861
CHARLOTTE 28232 704 338-3181

BAKER, KRISTINE D. 032
516 CHATEAU APTS. A S
CARRBORO 27510 919 968-1260

BAKER, LENOX DIAL ORS 032
BOX 3706, DUMC A L/RT
DURHAM 27710 919 684-2628

BAKER, LINNY MARSHALL PD /A 013
40 ARDSLEY AVENUE, N.E. A AC
CONCORD 28025 704 782-1918

BAKER, MARK EARLY DR 032
DUMC, BOX 3808 A AC
DURHAM 27710 919 681-2711

BAKER, MARVIN I. R/NM 021
PO BOX 1047 A P AC
EDENTON 27932 919 482-8446

BAKERMAN, SEYMOUR PTH 074
2902 MEMORIAL DRIVE A AC
GREENVILLE 27834 919 551-2801

BAKEWELL, WILLIAM ERNEST, JR. P 032
N. C. MEMORIAL HOSPITAL A AC
CHAPEL HILL 27514 919 966-4551

BALDWIN, MARIE P/PN 011
PO BOX 173 A L/RT
DUE WEST, SC 29639

BALE, CHARLES STEPHEN OBG 060
2620 CELANESE RD. #H A P R
ROCK HILL, SC 29730 803 324-7606

BALES, DONALD WEESNER, JR. IM 064
PO BOX 7828 AC
ROCKY MOUNT 27804 919 977-6746

BALL, FRANK JERVEY, JR. IM 083
601 LAUCHWOOD DR. A AC
LAURINBURG 28352 919 276-7727

BALL, JAMES DALE NM 0
DIV. OF NUCLEAR MEDICINE A A
WINSTON-SALEM 27103 919 748-35

BALL, MARSHALL RAY DR 0
BOWMAN GRAY, DEPT. OF RAD. A A
WINSTON-SALEM 27103 919 748-44

BALLARD-BARBASH, RACHEL M. NTR 0
1900 BRUNSWICK AVE. A
CHARLOTTE 28207 704 372-87

BALLARD, HARRY HAMPTON GS /CDS 0
800 HOSPITAL DR. STE. #6 A
NEW BERN 28560 919 633-20

BALLEN, PATRICK LASELVE GS 0
721 GREEN VALLEY RD. A A
GREENSBORO 27408 919 378-15

BALLENGER, CLARENCE EUGENE,III N 0
227 MEMORIAL DRIVE. A P A
JACKSONVILLE 28540 919 353-36

BALLENGER, CLAUDE NEWTON, JR. PD 0
1003 N. SIXTH STREET A
ALBEMARLE 28001 704 982-21

BALLENTYNE, KEITH AN 0
PO BOX 36351 A
1620 SCOTT AVE.
CHARLOTTE 28236 704 377-57

BALOCH, MOHAMMAD HAROON FP 0
2800 BLUE RIDGE BLVD. STE. 402 A A
RALEIGH 27607 919 787-0

BALSLEY, ROBERT EUGENE EM /PD 0
825 CRESCENT DRIVE A A
REIDSVILLE 27320 919 349-63

BALTIMORE, CHAS. LITTLEBURG,JR OPH 0
211 N. MARKET STREET A
WASHINGTON 27889 919 946-21

BANDY, LAWRENCE C. GYN /ON 0
ECU SCHOOL OF MED. A
DEPT. OF OB-GYN
GREENVILLE 27834 919 551-42

BANKOV, ROBERT WILLIAM EM 0
519 MARGARET RD. A A
STATESVILLE 28677 704 872-33

BARADA, FRANC A., JR. RHU /IM 0
2609 N. DUKE ST. A A
DURHAM 27704 919 477-51

BARBASH, ANDREW JEFFREY N 0
1900 BRUNSWICK AVE. A
CHARLOTTE 28207 704 377-93

BARBEE, LEWIS ELISHA GP 0
4928 SYLVANGLADE ROAD A P A
MCLEANSVILLE 27301 919 375-34

BARBER, ALFRED JOSEPH IM /HEM 0
1134 N. ROAD STREET A A
ELIZABETH CITY 27909 919 338-51

BARBER, JOHN FRANCIS GYN 0
157 WINDSOR RD. A L/R
ASHEVILLE 28804 704 253-48

†BARBER, TRACY EZRA OM 0
3009 LOOKOUT COURT A
DECEASED - 4-87
WINSTON-SALEM 27106 919 768-05

BARBORIAK, PETER N. 0
2748 MIDDLETON #14B A
DURHAM 27705 919 383-88

BARDELAS, JOSE ANTONIO, JR. A/PD 0
100 WESTWOOD AVE. A
HIGH POINT 27262 919 883-13

BARDEN, GRAHAM ARTHUR, III PD 0
707 PROFESSIONAL DR. A
NEW BERN 28560 919 633-29

BARDEN, GRAHAM ARTHUR, JR. PD 0
707 PROFESSIONAL DRIVE * A
NEW BERN 28560 919 633-29

BAREFOOT, JENNIFER ANNE COATS 0
2016 ALTA AVE. A
LOUISVILLE, KY 40205 919 758-44

BAREFOOT, JULIUS JACKSON,III EM 0
2016 ALTA AVE. A
LOUISVILLE, KY 40205 502 451-71

†BAREFOOT, SHERWOOD W. D 0
3107 MADISON AVE. A
DECEASED - 4-20-87
GREENSBORO 27403 919 299-86

BAREFOOT, VERNA YOUNG PH 0
2504 OLD CHERRY POINT ROAD
NEW BERN 28560 919 637-55

AREFOOT, WILLIAM FREDERICK GS 024
P. O. BOX 573 A L/RT
WHITEVILLE 28472 919 642-3256

ARHAM, BERLIN FRANCIS, JR. CDS /TS 060
301 HAWTHORNE LANE AC
CHARLOTTE 28204 704 375-8413

ARISH, CHARLES FRANKLIN IM /GE 092
3100 BLUE RIDGE RD., STE. 300 A P AC
RALEIGH 27612 919 748-4601

ARKER, CAROLYN E. CULBRETH P 039
1028 COLLEGE STREET A AC
OXFORD 27565 919 693-3003

ARKER, DAVID BERT U 023
308 N. WASHINGTON ST. A P AC
SHELBY 28150 704 484-0117

ARKER, JULIAN GYN 041
408 PARKWAY A P AC
GREENSBORO 27401 919 378-1110

ARKER, MARSHALL JAY OBG 054
400 GLENWOOD AVE. STE. #15 AC
KINSTON 28501 919 527-7208

ARKER, ROGER WILLIAM OTO /HNS 049
702 HARTNESS ROAD * AC
STATESVILLE 28677 704 873-5224

ARKER, RUDY WATKINS OBG 032
2609 N. DUKE ST., STE. 204 A AC
DURHAM 27704 919 471-8402

ARKLEY, KARL LEE OBG 041
1305 W. WENDOVER AVENUE A AC
GREENSBORO 27408 919 273-2835

ARNES, MAJOR RUSSELL, JR. OBG /FP 067
200 MEMORIAL DR. A AC
JACKSONVILLE 28540 919 353-0759

ARNES, ROBERT STEPHEN P 032
228 CHERYL AVE. A AC
DURHAM 27712 919 477-3459

ARNES, VICTOR RUSSELL 074
111 N. MEADE ST. A S
GREENVILLE 27834 919 758-1547

ARNHARDT, ALBERT EARL GP 013
2100 S. MAIN ST., #57 A L/RT
KANNAPOLIS 28081 704 938-4388

ARNHARDT, LUTHER ERNEST, JR. R/NM 011
900 MEDICAL CT., STE. A A AC
100 RANKIN DR.
MARION 28752 704 652-4630

ARNHILL, LARRY JARRETT,JR. CHP /P 034
190 CHARLOIS BLVD. A AC
WINSTON-SALEM 27103 919 768-6930

ARR, FALVY CARL, JR. PTH /FOP 082
404 BUTLER DRIVE A AC
CLINTON 28328 919 592-8511

ARR, JOHN FINDLEY 080
CLEVELAND FAMILY PRACTICE AC
PO BOX 295
CLEVELAND 27013

ARRETT, GEORGE CARLYLE R 060
958 CHEROKEE ROAD A AC
CHARLOTTE 28207 704 371-4056

ARRETT, JOHN ALBERT, JR. IM /RHU 060
3535 RANDOLPH ROAD, #200 A AC
CHARLOTTE 28211 704 366-8240

ARRETT, ROLLAND JOHN, II GYN /ON 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-2011

ARRICK, HARRY W., JR. FP 092
1900 HIGHLAND PL. A AC
RALEIGH 27607 919 787-4429

ARRIER, CECIL LEE, SR. GP 023
ROUTE #3, BOX 105 A AC
LAWNDALE 28090 704 538-7891

ARRINGER, ARCHIBALD LIPE FP 013
BOX 278 A L/RT
MOUNT PLEASANT 28124 704 436-9929

ARRINGER, MICHAEL LYNN GS 023
904 MEADOWBROOK LANE A P AC
SHELBY 28150 704 482-6359

ARRINGER, PHIL LOUIS GS 090
P. O. BOX 968 A L
MONROE 28110 704 283-2738

ARRINGER, ROBERT PHILLIPS IM 036
1896 REMOUNT ROAD A AC
GASTONIA 28054 704 867-0730

ARRINGER, THAD JONES P 092
3900 BROWNING PL., STE. 201 A P AC
RALEIGH 27609 919 787-7125

BARRINGER, THADDEUS JONES, JR. P 092
3900 BROWNING PL., STE. 201 A AC
RALEIGH 27609 919 787-7125

BARRINGER, THOMAS AVERY,III FP 060
10724 PARK ROAD, EXT. A AC
CHARLOTTE 28210 704 542-6577

BARRON, BRUCE JOSEPH GS 084
901 N. THIRD ST. AC
PO BOX 1398
ALBEMARLE 28001 919 982-0161

BARRON, JOHN ISAAC FP 012
P. O. BOX 489 A L
MORGANTON 28655 704 437-5641

BARROW, ROY DOUGLAS 074
2-J COURTNEY SQUARE A S
GREENVILLE 27858 919 756-3746

BARRY, DAVID WALTER IM /ID 032
BURROUGHS WELLCOME CO. A AC
3030 CORNWALLIS ROAD
RESEARCH TRIANGLE PK 27709 919 248-4534

BARRY, PAUL DOUGLAS DR /NM 041
#2 WALDRON COURT A AC
GREENSBORO 27408 919 288-9346

BARRY, WILLIAM EM /FP 026
3322 MELROSE ROAD A AC
FAYETTEVILLE 28304 919 323-5880

BARTELS, GEORGE THOMAS FP /NTR 092
1201 AVERSBORO ROAD A AC
GARNER 27529 919 779-6330

BARTELT, CURTIS FREDERICK FP 060
6725 FAIRVIEW ROAD AC
CHARLOTTE 28210 704 365-0677

BARTH, GEORGE BITTMAN, II FP 047
405 S. MAIN ST. A AC
P. O. BOX 665
RAEFORD 28376 919 875-5101

BARTHOLOMEW, CYNTHIA L. PD 060
7108 PINEVILLE-MATTHEWS RD. AC
CHARLOTTE 28226 704 542-1952

BARTLETT, EDWIN CLARY ORS 074
#6 MEDICAL PAVILION A AC
GREENVILLE 27834 919 752-4613

BARTLETT, STEPHEN RUSSELL GS 074
208 N. LONGMEADOW ROAD A L/RT
GREENVILLE 27834 919 752-3218

BARTON, FORBES MARSHALL, JR. GS 060
2115 E. 7TH ST., STE. 103 AC
CHARLOTTE 28204 704 375-3728

BARTON, JOHN HOMER, JR. 034
160 SARATOGA ST. A S
WINSTON-SALEM 27103 919 765-7946

BARWICK, WILLIAM JAMES PS 032
BOX 3098, DUMC A AC
DURHAM 27710 919 684-3320

BASHFORD, ROBERT ALONZO OBG 065
2215 CANTERWOOD DRIVE AC
WILMINGTON 28401 919 343-1031

BASKIN, JAYNE FRANCES 074
32F ARLINGTON SQUARE A S
GREENVILLE 27858 919 756-5256

BASS, DAVID ALDEN ID /IM 034
BOWMAN GRAY, DEPT. OF IM AC
WINSTON-SALEM 27103 919 748-4246

BASS, SPENCER PIPPEN, JR. PTH 064
P. O. BOX 605 A AC
TARBORO 27886 919 823-3114

BASS, THOMAS RECTOR FP 051
P. O. BOX 849 A AC
CLAYTON 27520 919 553-7158

BASSETT, FRANK HOUSTON, III ORS 032
DUKE UNIV. MED. CTR. A AC
DURHAM 27710 919 684-4378

BATCHELLER, EDGAR HADLEY, JR. GS /TS 067
P. O. BOX 1000 A AC
JACKSONVILLE 28540 919 353-2194

BATE, DAVID SOULE, JR. FP 011
1812 HENDERSONVILLE RD. AC
ASHEVILLE 28806 704 684-0011

BATEMAN, WALLACE BRYSON, JR. EM 096
309 WALNUT CREEK DRIVE AC
GOLDSBORO 27530 919 778-6205

BATES, HAROLD BASCOM U 001
1610 VAUGHN ROAD A AC
BURLINGTON 27215 919 227-2761

BATES, PAUL KENNETH, JR. PD 018
FIRST PLAZA -- BOX 700 A AC
1985 TATE BOULEVARD, S.E.
HICKORY 28602 704 322-2550

BATTEN, HUBERT ELMORE R 026
CAPE FEAR VALLEY HOSPITAL * AC
FAYETTEVILLE 28302 919 323-2012

BATTEN, WOODROW IM 051
601-B N. EIGHTH STREET AC
SMITHFIELD 27577 919 934-8977

BATTLE, CONSTANCE Y. OBG 092
3613 HAWORTH DR. AC
RALEIGH 27609 919 781-5550

BATTLE, MARGARET E. WHITE GYN 064
521 PEACHTREE STREET A L
ROCKY MOUNT 27801 919 442-2414

BATTLE, NEWSOM PITTMAN GS 064
100 NASH MEDICAL ARTS MALL A L
ROCKY MOUNT 27801 919 442-2414

BATTS, MARK BURREL 074
RT. #8, BOX 269 A S
GREENVILLE 27834 919 752-3648

BAUCOM, MARY PADGETT IM 060
PO BOX 32861 A AC
CHARLOTTE 28232 704 338-3165

BAUCOM, SANDRA SASSER PD 024
RT. #7, BOX 34B A AC
WHITEVILLE 28472 919 642-6244

BAUER, JOHN MONTGOMERY PTH 018
ROUTE #2, BOX 197 A AC
CONOVER 28613 704 322-3821

BAUGHAM, ILA EVANS PD 097
DOCTOR'S BLDG., 8TH ST. AC
PO BOX 309
NORTH WILKESBORO 28659 919 838-7466

BAUGHAM, LEONARD ANDREW GS 097
P. O. BOX 1146 AC
NORTH WILKESBORO 28659 919 667-4718

BAUMAN, ROC WINSTON 032
102 SIDNEY GREEN ST. A S
CHAPEL HILL 27514 919 929-5454

BAUMRUCKER, JOHN FREDERICK FP 056
P. O. BOX 1060 AC
HIGHLANDS 28741 704 526-2125

BAXLEY, MARY JOHN IM /PD 041
1008 PROFESSIONAL VILLAGE A AC
GREENSBORO 27401 919 299-0000

BAYLIN, GEORGE JAY DR /OTO 032
2535 WRIGHTWOOD AVENUE A L/RT
DURHAM 27705 919 489-9637

BEALS, MARTIN FEARING, JR. PD 070
78 MEADS STREET AC
ELIZABETH CITY 27909 919 338-2155

BEAMER, MARK EDWARD 074
119 FLETCHER PL. A S
GREENVILLE 27834 919 758-2290

BEANE, SCOTT DOUGLAS 074
3-I COURTNEY SQUARE APTS. A S
GREENVILLE 27858 919 758-5617

BEAR, SIGMOND AARON GYN 065
3712-B RESTON COURT AC
WILMINGTON 28403 919 686-9565

BEARD, JOHN NICHOLS OM /PD 060
1350 KINGS DRIVE AC
CHARLOTTE 28207 704 372-8750

BEARDSLEY, THOMAS LEWIS OPH 011
3-C DOCTOR'S PARK * AC
ASHEVILLE 28801 704 253-9821

BEASLEY, CHARLES BRITTON OTO 054
KINSTON CLINIC, NORTH A AC
KINSTON 28501 919 523-0687

BEASLEY, CHARLES RONALD IM /PUD 078
206 W. 27TH STREET A AC
LUMBERTON 28358 919 738-1421

BEASON, EDWARD STEWART PS 034
1732 S. HAWTHORNE ROAD A AC
WINSTON-SALEM 27103 919 765-3540

BEATTY, PETER T. 032
2335 HURON CIRCLE A S
DURHAM 27707 919 493-9131

BEAVER, ROBERT HOWELL ORS 013
109 COUNTRY CLUB DR. A AC
CONCORD 28025 704 786-5122

BEAVERS, CHARLES LEE AN 041
100 MEADOWBROOK TERRACE A L/RT
GREENSBORO 27408 919 273-1066

BEAVERS, JAMES WALLACE GP 041
2206 W. MARKET ST. A L/RT
GREENSBORO 27403 919 272-3487

BEAZLEY, MARGIE LANE 032
13 HAMILTON ROAD A S
CHAPEL HILL 27514 919 942-2779

BECHERER, PAUL ROBERT 032
11 COTTAGEWOODS CT. R
DURHAM 27713 919 967-7792

BECHTOLDT, ALBERT ARTHUR, JR. AN 032
UNC, DEPT. OF ANES. A AC
CHAPEL HILL 27514 919 966-5136

BECK, J. MONTGOMERY FP /U 001
820 FOREST OAKS LANE L/RT
MEBANE 27302 919 563-2450

BECK, PAUL GER /IM 092
VIRGINIA MASON CLINIC A AC
1100 NINTH AVE.
SEATTLE, WA 98101 206 223-6707

BECK, ROBERT KENT OTO 029
20 W. FIFTH AVE. * AC
LEXINGTON 27292 704 246-8660

BECKER, DENIS I. END /IM 092
3410 EXECUTIVE DR., SUITE 205 A AC
RALEIGH 27609 919 876-7692

BECKHAM, DAVID ROBERTSON AN 026
1762 METROMEDICAL DR. A P * AC
FAYETTEVILLE 28302 919 323-5491

BECKNELL, GEORGE FRANKLIN, JR. GP 081
407 S. BROADWAY A AC
FOREST CITY 28043 704 245-4838

BECKWITH, GEORGE HUGHES CD /IM 025
PO BOX 2554 AC
702 NEWMAN RD. MCCARTHY SQ.
NEW BERN 28560 919 633-4046

BECKWITH, MARY KRISTINE OBG 032
1821 GREEN ST. A AC
DURHAM 27705 919 286-1250

BEDRICK, JAMES JOSEPH OPH 060
1900 RANDOLPH RD., STE. 1016 A AC
CHARLOTTE 28207 704 334-2020

BEDROSIAN, CAMILLE LUCIA IM 032
9-A TARAWA TERRACE A R
DURHAM 27705 919 383-4972

BEEKER, THADDEUS ARLEN 074
APT. 16-F, COURTNEY SQUARE A S
GREENVILLE 27834 919 737-8170

BEEMER, CHARLES T. ORS 053
PO BOX 1169 A AC
1816 DOCTORS' DR.
SANFORD 27330 919 775-7232

BEESE, STEPHEN ARTHUR FP 034
429 S. SUNSET DRIVE A AC
WINSTON-SALEM 27103 919 722-1748

BEGGERLY, CLAY EVANS GS 074
114 E. CONCORD DR. A R
GREENVILLE 27834 919 551-4100

BEITZ, LAURIE OWEN 032
413 PRITCHARD AVE. A S
CHAPEL HILL 27514 919 929-7771

BELK, ROBERT SAMUEL IM /CD 014
322 MULBERRY ST. SW A * AC
PO BOX 1020
LENOIR 28645 704 758-5544

BELL, CAROL ROLAND AN 011
202 DOCTOR'S BUILDING A AC
ASHEVILLE 28801 704 254-1969

BELL, DOROTHY MCFARLAND OPH 032
1110 W. MAIN ST. A AC
DURHAM 27701 919 682-9341

BELL, ELIZABETH ANNE 032
52-B DAVIE CIRCLE A S
CHAPEL HILL 27514 919 942-6137

BELL, GEORGE ERICK, JR. ORS 098
WILSON CLINIC A AC
WILSON 27893 919 291-7001

BELL, IRA EUGENE, JR. TR /R 018
CATAWBA MEMORIAL HOSPITAL AC
810 FAIRGROVE CHURCH RD.SE
HICKORY 28602 704 322-0856

BELL, JOHN DAVIS AN 045
401 SIXTH AVE., WEST AC
HENDERSONVILLE 28739 704 693-7848

BELL, JOSEPH TAYLOR, II 032
N-12 THE VILLAGES A S
CARRBORO 27510 919 761-0234

BELL, MICHAEL JOHN R/NM 060
2001 VAIL AVENUE A AC
CHARLOTTE 28207 704 379-5860

BELL, RALPH MONROE IM 060
8223 BONDS GROVE CHURCH RD. L/RT
WAXHAW 28173 704 377-6569

BELL, RICHARD ALAN PD 025
3804 BUTLER ROAD AC
NEW BERN 28560 919 633-2900

BELL, WILLIAM HARRISON, JR. DR /NM 025
P. O. BOX 2065 A * AC
NEW BERN 28560 919 633-5057

BELL, WILLIAM OSGOOD NS 034
BOWMAN GRAY, DEPT. OF NS A * AC
WINSTON-SALEM 27103 919 748-4047

BELL, WILLIS HARVEY, II IM /PUD 032
2027 WAWA AVENUE A RT
DURHAM 27707 919 493-1048

BELLAMY, WILLIAM EDWARD, JR. IM /PUD 092
3101 ESSEX CIRCLE A P AC
RALEIGH 27608 919 782-2631

BELLOWS, ROWLAND THOMPSON NS 060
3529 PARK ROAD A L/RT
CHARLOTTE 28209

BENBOW, EDWARD PERRY, JR. PD 041
PO BOX 339 A L
ORIENTAL 28571 919 299-7057

BENBOW, JOHN MILLER PD 013
40 ARDSLEY AVENUE, N.E. AC
CONCORD 28025 704 786-1144

BENDER, NEIL CARMICHAEL IM 025
P. O. BOX 68 A * AC
POLLOCKSVILLE 28573 919 633-1010

BENEDUM, JOHN LOYLE IM 060
7110 LAWYERS RD. AC
CHARLOTTE 28212 704 364-7037

BENFIELD, RONALD WILLIAM ORS 049
520 BROOKDALE DR. AC
STATESVILLE 28677 704 872-7492

BENJAMIN, EUGENE E. N 060
2115 E. 7TH ST., SUITE #101 A AC
CHARLOTTE 28204

BENJAMIN, SANFORD PHILIP PTH /CLP 060
2001 VAIL AVE. A AC
CHARLOTTE 28207 704 379-5982

BENNETT, CRAIG RANDALL ORS 097
MEDICAL ARTS BLDG. A P AC
NORTH WILKESBORO 28659 919 667-5039

BENNETT, ERNEST CLAXTON GP 009
P. O. BOX 667 A L
ELIZABETHTOWN 28337 919 866-4319

BENNETT, HERRON KENT OBG 040
P. O. BOX 5128 A AC
HIGH POINT 27262 919 887-3011

BENNETT, JOHN JOE GP /OM 025
102 GIBBS ROAD AC
NEW BERN 28560 919 633-0709

BENNETT, JOHN NORTHWOOD R 097
ROUTE #1, BOX 96 A P * AC
MORAVIAN FALLS 28654 919 838-3896

BENNETT, LAWRENCE NORTHWOOD DR 097
211 NAUTILUS DR. #4 A P R
MADISON, WI 53705 608 238-6844

BENNETT, PAUL CLIFFORD, JR. FP 096
2400 WAYNE MEM. DR., STE. B AC
GOLDSBORO 27530 919 735-1251

BENNETT, WILLIAM TYSON CD /IM 060
3626 LATROBE DR. AC
CHARLOTTE 28211 704 364-0057

BENSEN, VLADIMIR BASIL FP /GS 092
422 ST.MARY'S STREET A L
RALEIGH 27605 919 832-6855

BENSON, JOHN DEWITT PTH 092
4420 LAKE BOONE TRAIL A AC
RALEIGH 27607 919 755-3040

BENSON, JOHN FISHER RHU /IM 040
318 WESTWOOD AVENUE A AC
HIGH POINT 27262 919 882-2515

BENSON, NICHOLAS HEROD EM 074
1309 FANTASIA STREET A AC
GREENVILLE 27858 919 551-4297

BENTLEY, RALPH LUTHER PD 049
332 N. CENTER STREET A AC
STATESVILLE 28677 704 878-2011

BENTSEN, BIRGER STEVEN P 032
PO BOX 1323 A R
CHAPEL HILL 27514 919 942-8226

BENTZEL, CARL JOHAN IM /NEP 07
ECU DEPT. OF RENAL MED. A AC
GREENVILLE 27858 919 551-254

BERGANT, JAMES ALLEN U 03
2609 N. DUKE ST., SUITE 302 A AC
DURHAM 27704 919 471-842

BERGER, BRUCE R. CHP /P 07
ECU, DEPT. OF PSY, BRODY BLDG.A AC
GREENVILLE 27858 919 551-266

BERGER, FREDERICK ALLEN PD 05
28 RIVERVIEW STREET, #114 AC
FRANKLIN 28734 704 524-847

BERGER, GARY STERLING OBG /PH 03
109 CONNER DR., STE. 2104 A AC
CHAPEL HILL 27514 919 968-465

BERGERON, JOSEPH CHARLES, JR. PTH 09
102 WILSHIRE BOULEVARD A P * AC
WILSON 27893 919 399-811

BERGSTEIN, JACK MARSHALL GS 00
PO BOX 32861 A
CHARLOTTE 28232 704 525-601

BERKELEY, SCOTT BRUCE, JR. GS 09
2400 WAYNE MEM. DR. STE. E A AC
GOLDSBORO 27530 919 735-602

BERKEY, WILLIAM SALDERUS, JR FP 01
PO BOX 696 A AC
SKYLAND 28776 704 684-780

BERKOWITZ, GERALD PHILLIP PD /NPM 06
200 HAWTHORNE LANE A AC
P. O. BOX 33549
CHARLOTTE 28233 704 371-402

BERNE, FREEMAN ALBERT DR 07
P. O. DRAWER 1527 A * AC
LUMBERTON 28358 919 738-822

BERNER, THOMAS EM 01
23 PARK ROAD AC
ASHEVILLE 28803 704 274-359

BERNHARDT, PETER F. PTH 03
RT. #1 2505 HARDWOOD LN. A
HILLSBOROUGH 27278 919 471-816

BERNSTEIN, DANIEL OPH 09
MEDICAL SERVICE BLDG. A P AC
RUIN CREEK ROAD
HENDERSON 27536 919 492-802

BERNSTEIN, ROSLYN JULIE IM 03
4617 HOPE VALLEY RD., APT. H A
DURHAM 27707

BERRETTA, JEANNE SMITH FP /GER 07
PO BOX 1846 A AC
ECU SCHOOL OF MEDICINE
GREENVILLE 27834 919 551-461

BERRY, FRANCIS XAVIER OBG 04
1208 COLONIAL AVE. L/R
GREENSBORO 27408 919 272-215

BERRY, JOHN, JR. GS 05
PO BOX 1316, DOCTOR'S DR. AC
KINSTON 28501 919 522-162

BERRY, WILLIAM ROSSER ON /HEM 09
PO BOX 30098 A AC
RALEIGH HEM/ONCOLOGY CLI.
RALEIGH 27622 919 781-707

BERRYHILL, BRUCE HOLT OTO 06
1600 E. THIRD STREET A AC
CHARLOTTE 28204 704 372-330

BERTLING, MARION HENRY GYN 04
2312 PRINCESS ANN STREET A * L/R
GREENSBORO 27408 919 288-634

BERTRAM, ROBERT U 08
909 W. HENDERSON ST. A AC
SALISBURY 28144 704 633-944

BERTRAND, MARGARET LINS DR 04
2214 PINECREST A * AC
GREENSBORO 27403 919 379-094

BERTRAND, SCOTT ALAN AN 04
PO BOX 10373 A AC
GREENSBORO 27404 919 373-037

BEST, ANDREW ARTHUR FP 07
P. O. BOX 949 * I
GREENVILLE 27834 919 752-212

BEST, DAVID CHARLES PS /HS 04
600 PASTEUR DR. A AC
GREENSBORO 27403 919 852-030

BEST, JAMES ERNEST PD /ADL 04
600 PASTEUR DRIVE A * L/R
GREENSBORO 27403 919 299-804

THEL, MILLARD BAIMBRIDGE PH 092
25 BANBURY LANE A L/RT
CHAPEL HILL 27514 919 929-5606

TTS, CHARLES SAMUEL IM 076
220-A FOUST STREET AC
ASHEBORO 27203 919 629-7710

TTS, WILMER CONRAD P 092
3125 GLENWOOD PROF. VILLAGE A AC
RALEIGH 27608 919 782-0166

UTEL, WILLIAM DEAN GS 023
301 W. KING ST. A AC
KINGS MOUNTAIN 28086 704 734-0221

VIN, ABNER GRISWOLD, JR PS /GS 032
UNC, DIV. OF PLASTIC SURGERY A AC
CHAPEL HILL 27514 919 966-4446

VIS, CHARLES ALAN ORS 049
1835 DAVIE AVE., STE. 415 AC
STATESVILLE 28677 704 872-7676

Y, RICHARD DOUD N 034
160 CHARLOIS BOULEVARD A AC
WINSTON-SALEM 27103 919 768-5834

YER, ALFRED JAMES GS 026
521 BEAUMONT ROAD AC
FAYETTEVILLE 28304 919 483-5031

YER, CATHERINE HERLIHY PD 026
1213 WALTER REED ROAD AC
FAYETTEVILLE 28305

IATTI, MOHAMMAD AMJAD GS /TS 001
719 HERMITAGE RD. AC
BURLINGTON 27215 919 226-5191

IOTIWIHOK, PREECHA AN 054
P. O. BOX 1043 A P * AC
KINSTON 28501 919 522-7800

ANCHI, EDGARDO HUGO CD /IM 067
1703 COUNTRY CLUB RD. STE. 202 A AC
JACKSONVILLE 28540 919 455-9600

CKET, DAPHNE PATRICIA 034
2318-C ARDMORE TERRACE A S
WINSTON-SALEM 27103 919 723-4862

CKLEY, SAMUEL TAYLOR FP 040
P. O. BOX 5168 A * AC
HIGH POINT 27262 919 885-2118

CKSTON, STEPHEN JOSEPH 032
#73 HAMILTON ROAD A S
CHAPEL HILL 27514 919 933-3027

EHLER, DARREN FOSTER 032
108-A ESTES DR. A S
CARRBORO 27510 919 942-9519

ESECKER, GARY LEROY GS 040
624 QUAKER LN., STE. C-101 A * AC
HIGH POINT 27262 919 883-1348

GGERS, DAVID CARL PTH 011
MEMORIAL MISSION HOSPITAL A AC
ASHEVILLE 28801 704 255-4270

GGERS, WILLIAM PAUL OTO /A 032
610 BURNETT-WOMACK-229H * AC
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514 919 966-3341

GGS, JOHN IRVIN ORS 078
1406 N. ELM ST. A L/RT
PO BOX 1004
LUMBERTON 28358 919 739-6093

GHAM, ROY STINSON, JR. IM 060
4000 MCKEE ROAD A L/RT
MATTHEWS 28105 704 846-2233

LBREY, GEORGE MARVIN, JR CDS /TS 011
257 MCDOWELL STREET A P AC
ASHEVILLE 28803 704 258-1121

LBRO, ROBERT HODGES IM /CD 092
3521 HAWORTH DR. A AC
RALEIGH 27609 919 782-1806

LLICA, WILLIAM HARRY
2217-W WINDSOR AVE. A R
PHOENIX, AZ 85009 602 254-8052

LLINGS, JACK SMITH FP 034
540 HOLMES DRIVE A AC
RURAL HALL 27045 919 969-9158

LLMIRE, KAREN LEIGH P 032
ROUTE #5, BOX 110 A R
PITTSBORO 27312 919 966-5711

NDER, GEORGE ARTHUR DR 026
401 LAKESHORE DR. A AC
FAYETTEVILLE 28305 919 484-4028

NION, GERALD RAY OBG 023
110 W. GROVER STREET A AC
SHELBY 28150 704 487-5258

BINION, MARK LEE 074
106 SCALES PL., APT. A-7 A S
GREENVILLE 27834 919 758-9438

BIRD, IGNACIO R 041
207 HOMEWOOD AVENUE A L/RT
GREENSBORO 27403 919 299-8319

BIRMINGHAM, LORRAINE FAITH FP 032
5035 HADRIAN DR. A R
DURHAM 27703 919 596-0430

BISHOP, JOHN MASON, JR. OBG 092
2800 BLUE RIDGE BLVD. STE. 206 AC
RALEIGH 27607 919 781-7450

BISHOP, PATTE JAYNE PDS 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4502

BISHOPRIC, ALICE OBG 018
1205 N. CENTER STREET AC
HICKORY 28601 704 328-2901

BISSELL, LEWIS F. IM 011
12 ROUND OAK ROAD AC
ASHEVILLE 28804 704 254-0663

BISSRAM, GANESH ORS 042
130 CARDINAL DR. AC
ROANOKE RAPIDS 27870 919 535-3091

BITTER, KARL FFOLLIOTT U 011
1 DOCTOR'S PARK A AC
ASHEVILLE 28801 704 253-5314

BITTINGER, ISABEL ORS 034
118 S. CHERRY ST., A L
PO BOX 10668
WINSTON-SALEM 27108 919 725-0656

BIZZELL, JAMES EUSTACE, II 032
1410 FOUNTAIN VIEW #101 A R
HOUSTON, TX 77057 713 784-6504

BLACK, EDWARD BARNWELL R 060
3535 RANDOLPH RD.,STE 102 A AC
CHARLOTTE 28211 704 365-0343

BLACK, JAMES FRANKLIN OBG 029
7 MEDICAL PARK DRIVE A AC
LEXINGTON 27292 704 243-2431

BLACK, JAMES HAMPTON IM /NEP 060
125 BALDWIN AVE. A * AC
CHARLOTTE 28204 704 374-1696

BLACK, JOHN ALEXANDER R 065
2206 LYNNWOOD DR. A AC
WILMINGTON 28403 919 343-7000

BLACK, JOHN RILEY, JR. PH 024
P. O. BOX 810 L
WHITEVILLE 28472 919 642-8061

BLACK, KYLE E., JR. ORS 040
624 QUAKER LANE, STE. D-209 AC
HIGH POINT 27262 919 841-6262

BLACK, KYLE EMERSON GS 080
825 W. HENDERSON STREET A L
SALISBURY 28144 704 636-5510

BLACK, PAUL ADRIAN L. OALR/OPH 065
5553 OLEANDER DRIVE A L
WILMINGTON NC 28403 919 799-2226

BLACK, WINSEL O'NEAL GP 080
601 MOCKSVILLE AVENUE A AC
SALISBURY 28144 704 633-5048

BLACKBURN, KATHERINE S. 034
211-28 DALEWOOD DR. S
WINSTON-SALEM 27104 919 765-5952

BLACKBURN, ROBERT ALFRED OTO /P 026
1262 OLIVER ST. A AC
FAYETTEVILLE 28304 919 485-7181

BLACKBURN, THOMAS REID DR 023
PO BOX 1148 A P * AC
SHELBY 28150 704 487-3141

BLACKERBY, JAMES GP 025
1807 TRYON ROAD A L
NEW BERN 28560 919 637-3424

BLACKERBY, JAMES NICHOLAS GS 025
800 HOSPITAL DR. AC
NEW BERN 28560 919 633-2081

BLACKLEY, ROY JACKSON P/GPM 092
325 N. SALISBURY STREET AC
RALEIGH 27611 919 733-4506

BLACKMAN, JESSE AYCOCK GP 096
109 S. SYCAMORE STREET AC
FREMONT 27830 919 242-6171

BLACKMON, BRUCE BERNARD FP 043
P. O. BOX 8 A P * AC
BUIES CREEK 27506 919 893-3543

BLACKWELL, BRUCE WAYNE FP 026
1601-B OWEN DR. A AC
FAYETTEVILLE 28304 919 323-1152

BLACKWELL, MICHAEL A. 074
114-D RIVER BLUFF RD. A S
GREENVILLE 27834 919 758-7303

BLACKWELL, OSCAR MOORE, III IM /BE 029
309 PINEYWOOD ROAD A AC
THOMASVILLE 27360 919 475-8121

BLAIR, GEORGE WALKER, JR. IM 001
711 HERMITAGE ROAD A P AC
BURLINGTON 27215 919 226-9317

BLAIR, JAMES SEABORN, JR. FP 031
400 E. MAIN STREET AC
WALLACE 28466 919 285-2134

BLAIR, JERRY RAY 032
14 GLEEWOOD PLACE, EAST A S
DURHAM 27713 919 544-5534

BLAIR, ROBERT GILLESPIE, JR. ORS 025
P. O. DRAWER 1694 A AC
TRIANGLE PLAZA
NEW BERN 28560 919 633-4477

BLAKE, DAMON DALTON TR 034
BOWMAN GRAY SCH. OF MED. A P AC
WINSTON-SALEM 27103 919 748-4981

BLAKE, GERALD WAYNE IM /ID 092
3521 HAWORTH DR. AC
RALEIGH 27609 919 782-1806

BLAKE, JOHN PAUL P 001
723 EDITH STREET A AC
BURLINGTON 27215 919 227-9818

BLAKE, ROBERT ADAMS ORS 036
902-D COX ROAD A AC
GASTONIA 28054 704 864-6723

BLAKE, SIDNEY ALLEN 034
1730-J FRANCISCAN TERR. A S
WINSTON-SALEM 27107 919 788-5646

BLAKELY, GENE THORNTON GS 045
MARGARET PARDEE HOSPITAL AC
HENDERSONVILLE 28739 704 693-6522

BLAKEMORE, WILLIAM STEPHEN OPH 021
101 MARK DR. A AC
EDENTON 27932 919 482-7471

BLALOCK, FLOYD ESTON, JR. FP /GP 020
VALLEY RIVER CLINIC A AC
ANDREWS 28901 704 321-4510

BLANCHAT, TIMOTHY JOSEPH IM 018
11 13TH AVENUE, N. E. AC
HICKORY 28601 704 322-3541

BLAND, RALPH WINGATE GS /TS 096
2400 WAYNE MEM.DR.,STE.J A P AC
GOLDSBORO 27530 919 734-5010

BLAND, VEITA JOYCE FP 041
1021 E. WENDOVER AVE. STE. 202 * AC
MEDICAL ARTS BLDG.
GREENSBORO 27405 919 373-1557

BLANK, ROY CRARY IM 060
335 N. CASWELL RD. A AC
CHARLOTTE 28204 704 376-4852

BLAYLOCK, RUSSELL LANE NS 040
P. O. BOX 5388 P * AC
HIGH POINT 27262 919 889-4810

BLEVINS, VIRGINIA KAY IM 034
250 CHARLOIS BLVD. A AC
WINSTON-SALEM 27103 919 768-4730

BLEYNAT, MICHELLE LOUISE 032
207 SUMMERWALK CIRCLE A S
CHAPEL HILL 27514 919 929-7746

BLIEVERNICHT, STEPHEN WALDO GS 041
1014 PROFESSIONAL VILLAGE P AC
GREENSBORO 27401 919 373-1078

BLOMELEY, CHARLES PERRY FP 075
PO BOX 608 A AC
COLUMBUS 28722 704 894-8213

BLOMGREN, PETER FREDERICK FP 041
317 W. WENDOVER AVE. AC
GREENSBORO 27408 919 373-1794

BLOMQUIST, GUSTAV ARTHUR, JR. PS 041
721 GREEN VALLEY RD., STE. 303 A AC
GREENSBORO 27408 919 275-1111

BLOOMFIELD, ROBERT LEE IM 034
741 HIGHLAND AVENUE A AC
WINSTON-SALEM 27101 919 727-8165

BLOUNT, CHARLES WHITNER, JR. FP 060
6708 ALBEMARLE ROAD AC
CHARLOTTE 28212 704 536-4903

BLOUNT, FREDERICK ALEXANDER PD 034
2390 COLISEUM DRIVE A * L/RT
WINSTON-SALEM 27106 919 724-3072

BLOUNT, JOHN MYERS, III FP /OM 080
130 WOODSON ST. A P * AC
SALISBURY 28144 704 637-3207

BLOW, OSBERT PTH 032
5238 N. WILLOWHAVEN DRIVE A R
DURHAM 27712 919 383-1076

BLOWE, RALPH BOYD, SR. FP 042
10 WEST 6TH STREET A L
WELDON 27890 919 536-3820

BLUE, JOHN FREDERICK FP 053
P. O. BOX 820 A * AC
SANFORD 27330 919 775-7522

BLUE, JOHN FREDERICK, JR. FP 026
4092 PROFESSIONAL DR. AC
HOPE MILLS 28348 919 424-0123

BLUM, JEFFREY CLARK DR /IM 013
130 LAKE CONCORD ROAD, NE A AC
P. O. BOX 3345
CONCORD 28025 704 788-4130

BLUMENTHAL, BARRY HOWARD P 092
3125 GLENWOOD PROF. VILLAGE AC
RALEIGH 27608 919 782-0166

BLYTHE, WILLIAM BREVARD IM /NEP 032
UNC, DEPT. OF MEDICINE AC
CHAPEL HILL 27514 919 966-2565

BOARD, ROBERT JEFFREY OPH 092
3320 EXECUTIVE DR. STE. 111 AC
RALEIGH 27609 919 876-2427

BOAT, THOMAS FREDERICK PD /PUD 032
2025 S. LAKESHORE DRIVE A AC
CHAPEL HILL 27514 919 966-4427

BOATRIGHT, JAMES RICHARD HS /ORS 060
1822 BRUNSWICK AVENUE A AC
CHARLOTTE 28207 704 373-0544

BOBBITT, JAMES DANIEL OPH 013
33 LAKE CONCORD ROAD, N.E. AC
CONCORD 28025 704 786-2015

BOBZIEN, WILLIAM FREDRICK, III HEM /IM 064
100 NASH MEDICAL ARTS MALL AC
ROCKY MOUNT 27801 919 443-9084

BODE, DONALD DENBY, JR. OPH 074
2573 STANTONSBURG RD. A AC
GREENVILLE 27834 919 752-0313

BODNAR, TIMOTHY J. EM 026
310 THORNCLIFF DR. A AC
FAYETTEVILLE 28303 919 323-6167

BODNER, WILLIAM RAYMOND, JR. P 041
606 WALTER REED DR. A AC
GREENSBORO 27403 919 299-0107

BOEHM, O. ROBERT A/IM 060
1012 KINGS DR., STE. 302 AC
CHARLOTTE 28283 704 332-7731

BOER, HENRY R. NPM /PD 041
3036 LAKE FOREST DR. AC
GREENSBORO 27408 919 282-2360

BOERNER, DAVID FRANKLIN IM /PUD 092
3100 BLUE RIDGE RD.STE. 300 A P AC
RALEIGH 27612 919 781-7500

BOERNER, ROBERT MARTIN ID /PUD 011
520 BILTMORE AVENUE A * AC
ASHEVILLE 28801 704 254-5932

BOETTE, RICHARD WALTERS PD 041
515 COLLEGE RD. STE. #11 AC
GREENSBORO 27410 919 852-9630

BOGARD, ANN QUINN OTO 034
1901 S.HAWTHORNE RD.,STE. 240 A AC
WINSTON-SALEM 27103 919 768-1308

BOGARD, TERRENCE DALE AN 034
5020 KNOB VIEW TR. 27104 A P AC
WINSTON-SALEM 27106 919 760-3954

BOGGS, LAWRENCE KENNEDY U 060
1012 KINGS DRIVE A AC
CHARLOTTE 28283 704 333-3825

BOHNSACK, MICHAEL ROBERT AN 098
3305 MILLBROOK DR. A AC
WILSON 27893 919 291-1700

BOKESCH, CHARLES RICHARD CD /IM 086
P. O. BOX 1547 A AC
MOUNT AIRY 27030 919 786-6146

BOLDING, WILLIAM ROBERT AN 092
2032 THORPSHIRE DR. A AC
RALEIGH 27609 919 755-8000

BOLESTA, MICHAEL JOSEPH ORS 032
BOX 3000, DUMC A R
DURHAM 27710 919 684-8111

BOLICK, CHARLES ARTHUR 032
901-A N. GREENSBORO ST. A S
CARRBORO 27510 919 929-6342

BOLIN, LEWIS BRYANT GP 036
226 WILMOT DR. A AC
GASTONIA 28054 704 865-2386

BOLIN, LEWIS BRYANT, JR. FP 036
226 WILMOT DRIVE A AC
GASTONIA 28054 704 865-2386

BOLLING, THOMAS VANCE GS 075
208 HOSPITAL DR. A AC
COLUMBUS 28722 704 894-3566

BOLLINGER, RALPH RANDAL GS /IG 032
BOX 2910, DUKE HOSPITAL A * AC
DURHAM 27710 919 684-5209

BOLON, CHARLES GORDON GYN 060
2711 RANDOLPH RD., STE. 512 AC
CHARLOTTE 28207 704 333-4104

BOLSTAD, KARL EDWARD ORS 029
14 MEDICAL PARK DR. A AC
LEXINGTON 27292 704 249-2978

BOLZ, EVERETT ARTHUR OTO 060
1350 KINGS DRIVE A AC
CHARLOTTE 28207 704 372-8750

BOMBATEPE, VAMIK FP 096
204 N. HERMAN STREET AC
GOLDSBORO 27530 919 735-7580

BOMBENGER, JAMES JOHN PUD /IM 023
ROUTE #3, BOX 774-B AC
CONNELLY SPRINGS 28612 704 397-6147

BOMBERG, ROBERT BRYAN IM 032
2609 N. DUKE STREET AC
DURHAM 27704 919 471-8446

BOND, EDWARD GRIFFITH IM /CD 021
CHOWAN MEDICAL CENTER A * AC
EDENTON 27932 919 482-2116

BOND, JOHN LAWRENCE, JR. GS /ORS 097
P. O. BOX 1128 A AC
N. WILKESBORO 28659 919 838-4789

BOND, JOHN PENNINGTON GS 036
1806 FAIRFIELD DRIVE A L/RT
GASTONIA 28054 704 865-0154

BOND, PAMELA EATON 032
869 LOUISE CIRCLE A S
DURHAM 27705 919 383-8354

BOND, THOMAS MADISON GE /IM 011
49 MCDOWELL ST. A AC
ASHEVILLE 28801 704 258-3870

BOND, VERNARD FRANKLIN, JR. IM /CD 034
2240 CLOVERDALE AVE., STE. 215 A AC
WINSTON-SALEM 27103 919 724-0181

BONDURANT, STUART IM 032
UNC, 125 MACNIDER BLDG. A AC
CHAPEL HILL 27514 919 966-4161

BONGARDT, HENRY F., JR. IM /A 060
7234 LANCER DRIVE A AC
CHARLOTTE 28226 704 364-6812

BONNER, JACK WILBUR,III P 011
BOX 1101, HIGHLAND HOSPITAL A P * AC
ASHEVILLE 28802 704 254-3201

BONNER, MERLE DUMONT PUD /A 041
MEADOWBROOK TERRACE A L/RT
1915 BOULEVARD ST.
GREENSBORO 27407 919 854-0947

BONNER, STEVEN PAUL FP 060
211 S. SHARON AMITY RD. A P AC
CHARLOTTE 28211 704 663-0261

BONNIN, IRVIN RAYMOND OBG 036
1225 E. GARRISON BOULEVARD AC
GASTONIA 28054 704 867-7226

BOOKER, JOHN PARKS, JR. DR 018
P. O. BOX 308 A AC
HICKORY 28601 704 322-2644

BOONE, EDWARD EVERETT IM 018
ROUTE #2, BOX 199 A AC
CONOVER 28613 704 322-1128

BOONE, JOHN WOODIE, JR. FP 042
120 PROFESSIONAL DRIVE AC
ROANOKE RAPIDS 27870 919 537-9176

BOONE, STEPHEN CHRISTOPHER NS /EM 092
3009 NEW BERN AVE. A AC
PO BOX 14027
RALEIGH 27620 919 832-4448

BORCHERT, LYNN GORDON GYN 0
2245 STANTONSBURG RD. #A A
GREENVILLE 27834 919 752-09

BORDEN, RICHARD WINSTEAD GP 0
3108 ARENDELL ST. A
MOREHEAD CITY 28557 919 726-31

BORDER, CLINTON LARRY, JR. GS 0
P. O. BOX 538 A F
WAYNESVILLE 28786 704 452-45

BOS, JOHN FREMONT PTH /CLP 0
P. O. BOX 220349 A A
CHARLOTTE 28222 704 846-25

BOSKEN, DONALD WILLIAM FP 0
400 RANDOLPH ROAD A
THOMASVILLE 27360 919 475-71

BOSSE, HELEN HALL AN 0
P. O. BOX 10502 A A
RALEIGH 27605 919 733-27

BOSSEN, EDWARD HECHT PTH 0
BOX 3712, DUMC A A
DURHAM 27710 919 684-33

BOST, WILLIAM STUART, JR. OTO 0
8 DOCTOR'S PARK A P
PO BOX 5007
GREENVILLE 27834 919 752-52

BOSTIC, WILLIAM CHIVOUS, III ORS 0
SALEM ORTHOPAEDIC ASSOC. PA A
PO BOX 25007
WINSTON-SALEM 27114 919 768-12

BOSWELL, JOHN IVERSON, JR. CHP /P 0
N. C. MEMORIAL HOSPITAL A
CHAPEL HILL 27514 919 966-20

BOTERO, ERNESTO MIGUEL NS 0
200 E. NORTHWOOD ST. STE. 504 * A
GREENSBORO 27401 919 272-45

BOTROS, SHERIF BOTROS OTO 0
1625 DOCTOR'S CIRCLE A A
WILMINGTON 28401 919 762-02

BOUNOUS, JUDITH FRANCES EM /PD 0
2082 RIVERSHORE ROAD A
ELIZABETH CITY 27909 919 335-10

BOURGEOIS, JOHN ELLIOTT OPH 0
1600 E. THIRD ST. A P A
CHARLOTTE 28204 704 372-33

BOUZIGARD, RAY JOSEPH R/TR 0
KINSTON CLINIC, NORTH A A
DOCTORS DRIVE
KINSTON 28501 919 527-70

BOWEN, BENJAMIN CURETON FP 0
PO BOX 1460 A
STATESVILLE 28677 704 878-20

BOWEN, EDWYN TAYLOR, JR PD 0
3001 MAPLEWOOD AVENUE A
WINSTON-SALEM 27103 919 765-91

BOWEN, J. HARTLEY, III PTH 0
208 CAMELOT DRIVE A
MORGANTON 28655 704 438-22

BOWEN, JOHN HENRY FP /GP 0
912 CONNELLY SPRINGS ROAD A
P. O. BOX 1014
LENOIR 28645 704 728-82

BOWEN, MICHAEL LYNN FP 0
P. O. BOX 310 A * A
STANTONSBURG 27883 919 238-21

BOWER, EDWARD BIRCH GS 0
900 SUNSET DR. A A
MONROE 28110 704 289-25

BOWER, STEPHEN LEE DR 0
3155 MAPLEWOOD AVENUE A A
WINSTON-SALEM 27103 919 760-58

BOWERS, SCOTT P. OPH 0
#5 SILVER LAKE VILLAS A * A
WILSON 27893 919 291-13

BOWERS, WILLIAM HAMPTON HS /ORS 0
409-E PARKWAY DR. A P A
GREENSBORO 27401 919 378-08

BOWES, WATSON ALLEN, III 0
38-A DAVIE CIRCLE A
CHAPEL HILL 27514 919 942-69

BOWES, WATSON ALLEN, JR. OBG 0
UNC, DEPT. OF OBG A
214 MACNIDER BLDG. 202-H
CHAPEL HILL 27514 919 966-16

BOWLES, FRANCIS NORMAN OBG 0
1019 FISH CROW ROAD A L/R
SANIBEL, FL 33957 813 472-44

WLES, RICHARD MORGAN PD 023
01 GROVER STREET A AC
HELBY 28150 704 482-1435

WLING, RICHARD FRANKLIN GS 023
. O. BOX 638 A AC
HELBY 28150 704 487-8591

WMAN, CHRIS RICHARDS 074
O BOX 607 A S
URORA 27806 919 758-6437

WMAN, JAMES FREDERICK ORS 074
17 MEDICAL DRIVE A P AC
REENVILLE 27834 919 758-1777

WMAN, MARJORIE ANN FP /GPM 034
00 S. HAWTHORNE RD. A * AC
EPT. OF FAMILY MEDICINE
INSTON-SALEM 27103

WMAN, WILLIAM EDMUND, JR. GS /CDS 041
O BOX 10037 A AC
317 N. ELM ST.
REENSBORO 27404 919 275-9554

WTON, DAVID LOWELL PUD 034
EPT. OF MEDICINE AC
OWMAN GRAY SCH. OF MEDICINE
INSTON-SALEM 27103 919 748-4649

WYER, ALLEN FRANK CD 074
000 VENTURE TOWER DR. #300 A AC
REENVILLE 27834 919 551-4651

X, PATRICK RHU /IM 060
2310 RANDOLPH ROAD A P AC
HARLOTTE 28207

YCE, OREN DOUGLAS IM /HYP 036
406 S. CHESTER STREET A * L
ASTONIA 28052 704 865-3181

YCE, WILLIAM HENRY U 034
OWMAN GRAY SCH. OF MED. A AC
INSTON-SALEM 27103 919 748-4131

YD, BASIL MANLY, JR. ORS 060
1822 BRUNSWICK AVENUE A * AC
HARLOTTE 28207 704 373-0544

YD, DEBORAH DAETWYLER GS 098
1704 S. TARBORO ST. A AC
WILSON 27893 919 291-7001

YD, ELLEN PD 011
131 MCDOWELL STREET AC
ASHEVILLE 28801 704 254-4337

YD, JAMES FRANCIS IM /ON 060
125 BALDWIN AVE. A AC
HARLOTTE 28204 704 374-1696

YD, JOSEPH ALSTON, JR. R 091
1909 PARKER LANE A L/RT
HENDERSON 27536

YD, RICHARD ARMISTEAD OBG 049
STATESVILLE MEDICAL GROUP AC
PO BOX 1460
STATESVILLE 28677 704 878-2011

YD, WILLIAM MONROE, V 032
#1 SPRING GARDEN APTS. A S
CHAPEL HILL 27514 919 968-0106

YER, GEORGE NORMAN P 075
913 CAROLINA DRIVE AC
TRYON 28782 704 433-2503

YER, JAY ALLEN DR 034
250 CHARLOIS BOULEVARD A AC
WINSTON-SALEM 27103 919 768-4730

YETTE-KOURI, FRANCES 034
BOWMAN GRAY, BOX 190 A S
WINSTON-SALEM 27103 919 723-7169

YETTE, CHARLES OTIS FP 007
P. O. BOX 310 A P * AC
BELHAVEN 27810 919 943-2651

YETTE, DEANNA MARIE 074
BOX 1473 A S
GREENVILLE 27835 919 758-8785

YETTE, DOUGLAS RAY CD /IM 023
808 SCHENCK STREET A AC
SHELBY 28150 704 482-1482

YETTE, EDWARD LEE FP /CD 031
A * AC
CHINQUAPIN 28521 919 285-3481

YETTE, GRAY THOMAS IM /GE 034
2933 MAPLEWOOD AVENUE A P AC
WINSTON-SALEM 27103 919 765-1640

YLES, LARRY WAYNE N/IM 018
420 N. CENTER ST. A AC
HICKORY 28601 704 327-9869

BOYLES, WAYNE FRANCIS FP 018
ROUTE #3, BOX 155 A AC
HICKORY 28601 704 327-4745

BOYLSTON, JAMES ALAN PTH 060
PRESBYTERIAN HOSP.-PTH A AC
P. O. BOX 33549
CHARLOTTE 28233 704 371-4814

BOZYMSKI, EUGENE MICHAEL GE /IM 032
UNC, DEPT.OF MEDICINE * AC
324 CLINICAL SCI. BLDG. 229-H
CHAPEL HILL 27514 919 966-2511

BRAASCH, ERNEST R. P 032
4114 DEEPWOOD CIRCLE AC
DURHAM 27707 919 493-2217

BRAASCH, LESLEY KRIEGMAN PYA /P 032
4114 DEEPWOOD CIRCLE AC
DURHAM 27707 919 493-2217

BRABSON, JOHN ANDERSON GS /GYN 060
1900 RANDOLPH RD. STE. 1004 A L
CHARLOTTE 28207 704 333-0611

BRACKBILL, THOMAS ANDREW CD /CD 041
1011 PROFESSIONAL VILLAGE A AC
GREENSBORO 27401 919 272-6133

BRADFORD, ARTHUR LOUIS FP 078
123 E. BROAD STREET AC
ST. PAULS 28384 919 865-5170

BRADFORD, EDWARD AYERS IM 060
201 E. MATTHEWS STREET A AC
MATTHEWS 28105 704 365-0760

BRADFORD, JAMES HEDRICK CD /IM 049
1708-A DAVIE AVENUE AC
STATESVILLE 28677 704 873-1189

BRADFORD, SUSAN ELLEN PTH /CLP 054
1802 MARSHBURN CIRCLE A AC
KINSTON 28501 919 522-7141

BRADFORD, WILLIAM STRONG GS 079
629 S. MAIN ST. A AC
REIDSVILLE 27320 919 349-4024

BRADFORD, WILLIAMSON Z., JR. OBG 060
150 PROVIDENCE ROAD A AC
CHARLOTTE 28204 704 377-0461

BRADLEY, BETTY BRUTON FP 009
P. O. BOX 998 A AC
BLADENBORO 28320 919 863-3138

BRADLEY, GEORGE LEE, JR. GP /AM 036
800 E. FIRST STREET P AC
CHERRYVILLE 28021 704 435-4111

BRADLEY, HAROLD JOHN, JR. U 041
721 GREEN VALLEY RD. A * AC
GREENSBORO 27408 919 378-9176

BRADLEY, HAROLD JOHN, SR. U 041
721 GREEN VALLEY RD. A * L
GREENSBORO 27408 919 274-7624

BRADSHAW, PRESTON HATCHER, JR. U 092
1200 KERSHAW DR. A AC
RALEIGH 27609 919 876-4323

BRADSHER, ARTHUR BROWN GS 008
BERTIE COUNTY MEM. HOSPITAL A L
PO BOX 158
WINDSOR 27983 919 794-4539

BRADSHER, JAMES DONALD GP 073
P. O. BOX 168 L/RT
ROXBORO 27573 919 599-1611

BRADY, JOSEPH LAWRENCE, JR. PD /NPM 032
500 WATERSIDE DR. A R
CARRBORO 27510 919 968-4728

BRADY, WALTER MORRIS FP 016
#5 MEDICAL PARK A AC
MOREHEAD CITY 28557 919 726-8414

BRAME, ROBERT GRIFFIN OBG 074
1729 FOREST HILL DR. A * AC
GREENVILLE 27858 919 755-8535

BRAMLEY, MICHAEL LAIRD PD 074
1800 W. FIFTH STREET AC
GREENVILLE 27834 919 752-7141

BRANAMAN, GUY HEWITT, JR. GYN 092
915 WILLIAMSON DR. A L/RT
RALEIGH 27608 919 833-4080

BRANCH, CHARLES LEON, JR. NS 034
315 JANET ST. A R
WINSTON-SALEM 27104 919 768-7017

BRANCH, JAMES DAVID OPH 034
224 TOWN RUN LANE A AC
WINSTON-SALEM 27101 919 723-0748

BRANDON, DANIEL EM 036
3028 MT. VERNON DRIVE A AC
GASTONIA 28054 704 866-2266

BRANDON, HENRY ALLEN, JR. IM 095
250 DOCTORS DRIVE A P * AC
BOONE 28607 704 264-6362

BRANDSPIGEL, KARL NEP /IM 070
104 W. COLONIAL AVE. A AC
ELIZABETH CITY 27909 919 335-1083

BRANHAM, HENRY EZELL, JR. P/HYP 034
1409 PLAZA WEST RD., STE. E A P AC
WINSTON-SALEM 27103 919 768-9393

BRANNAN, WILLIAM CHESTER OBG 011
143 ASHELAND AVENUE A AC
ASHEVILLE 28801 704 258-9191

BRANTLEY, BERT ALTON, JR. ON 032
307 COLONY WOODS DRIVE AC
CHAPEL HILL 27514 919 684-2804

BRANTLEY, INGRID JEAN CHP /P 032
3510 UNIVERSITY DRIVE AC
DURHAM 27707 919 489-1884

BRANTLEY, JEFFREY GARLAND P 032
414 E. MAIN ST. AC
DURHAM 27701 919 682-9296

BRANTLEY, JULIAN CHISOLM, JR. GYN 064
1507 LAFAYETTE AVE. A L/RT
ROCKY MOUNT 27801 919 446-8434

BRANTLEY, JULIAN CHISOLM,III OBG 007
701 SHOREWOOD DRIVE A AC
WASHINGTON 27889 919 946-6544

BRANTLEY, JULIAN THWEATT OBG 041
721 GREEN VALLEY RD. A AC
GREENSBORO 27408 919 273-4325

BRASHEAR, HARRY ROBERT, JR. ORS 032
N. C. MEMORIAL HOSPITAL A AC
CHAPEL HILL 27514 919 966-2030

BRASHEAR, RALPH GUY FP 092
P. O. BOX 827 A * AC
WENDELL 27591 919 365-7366

BRASWELL, WILLIAM KELLEY GS /TS 044
MIDWAY MEDICAL CENTER * AC
P. O. BOX 1409
CANTON 28716 704 627-2211

BRATTON, TERESA SUE PDA /A 041
1021 E. WENDOVER, STE. 302 AC
GREENSBORO 27405 919 275-1318

BRAUN, SIMON DAVID DR 032
824 SHADYLAWN RD A AC
CHAPEL HILL 27514 919 681-2711

BRAWLEY, BOBBY WATSON NS 060
1010 EDGEHILL RD, NORTH A AC
CHARLOTTE 28207 704 376-1605

BRAXTON, DORIS BLACKWELL PD /ADL 001
711 HERMITAGE ROAD A P AC
BURLINGTON 27215 919 229-5341

BRAZIL, WILBURN OSCAR, JR. U 011
100 VICTORIA ROAD A * AC
ASHEVILLE 28801 704 254-8883

BREAM, CHARLES ANTHONY DR 032
N. C. MEMORIAL HOSPITAL L
CHAPEL HILL 27514 919 966-1461

BREEDEN, THOMAS E. GYN /OBG 036
603 COX ROAD, ABERDEEN PLAZA AC
GASTONIA 28052 704 867-3551

BREMER, CHARLES CHRISTOPHER FP 074
317 PINEWOOD ROAD A AC
GREENVILLE 27834 919 756-7974

BRENIZER, ADDISON GORGAS, JR. GS /TS 060
1333 QUEENS RD. #101 A L
CHARLOTTE 28207 704 376-4942

BRENNAN, MICHAEL W. OPH 001
1214 VAUGHN RD. A AC
BURLINGTON 27215 919 228-0254

BRENNER, WILLIAM EDWARD OBG /NPM 032
109 CONNER DR., STE. 2202 AC
CHAPEL HILL 27514 919 942-0011

BRENTON, BRADLEY CLARK DR 096
2700 MEDICAL OFFICE PLACE A AC
GOLDSBORO 27530 919 734-1866

BRESLIN, MARIANNE S. P/PYM 032
500 EASTOWNE DR., STE. 115 A AC
CHAPEL HILL 27514 919 493-2657

BRETT, CHARLES BURDEN PD 041
1307 W. WENDOVER AVENUE AC
GREENSBORO 27408 919 272-5189

BREWBAKER, STEPHEN LEWIS OBG 065
1134 SHIPYARD BLVD. AC
WILMINGTON 28403 919 799-4311

BREWER, JAMES CHESTER, JR. FP 041
P. O. BOX 8248 A AC
GREENSBORO 27419 919 852-7618

BREWINGTON, THOMAS ELMER, JR. OPH 041
P. O. BOX 20346 AC
GREENSBORO 27420 919 272-5628

BREWSTER, VANN ALLEN OM 060
DUKE POWER COMPANY A AC
P. O. BOX 33189
CHARLOTTE 28242 704 373-6192

BREZICKI, PAUL ALEXANDER FP 012
PO BOX 599 AC
RUTHERFORD COLLEGE 28671 704 874-2811

BREZINA, EDWARD SHARP, JR. OBG 098
1911 CANAL DRIVE A AC
WILSON 27893

BRICE, ROBERT SAMUEL, JR. GE /IM 034
1901 HAWTHORNE RD., STE. 310 A AC
WINSTON-SALEM 27103 919 760-4340

BRIDGER, DEWEY HERBERT, III 034
7901 BAYMEADOWS CIR. E#574 A S
JACKSONVILLE, FL 32216

BRIDGES, THOMAS HOWARD EM 023
P. O. BOX 1706 AC
SHELBY 28150 704 487-3134

BRIGGS, DOUGLAS MERRILL FP 023
1198 WYKE ROAD A AC
SHELBY 28150 704 487-1148

BRIGGS, JOHN GLENN, JR. PS 026
1782 METRO MEDICAL DR. * AC
FAYETTEVILLE 28304 919 323-1203

BRIGHT, DON CLARK AN 074
1705 W. SIXTH STREET A P AC
GREENVILLE 27834 919 752-2140

BRIGHT, ROBERT PAUL 032
433 BROOKSIDE DR. A S
CHAPEL HILL 27514 919 967-5440

BRIGMAN, PAUL HAMER EM 040
2807 EARLHAM PLACE AC
HIGH POINT 27263 919 431-3875

BRINKHOUS, KENNETH MERLE PTH /HEM 032
UNC, DEPT.OF PATH., 228-H A L
CHAPEL HILL 27514 919 966-1061

BRINKMAN, DENNIS MICHAEL AN 098
1203 GREENBRIAR COURT A AC
WILSON 27893 919 291-1700

BRINKMAN, LINDA EVES 074
10 PALMETTO PLACE A * S
GREENVILLE 27834 919 355-6121

BRINTON, LEWIS FLOYD GS /GYN 049
603 E. CENTER AVE. AC
PO BOX 550
MOORESVILLE 28115 704 664-1414

BRISLEY, JON PHILIP 032
618-C HIBBARD DR. A S
CHAPEL HILL 27514 919 933-5874

BRITT, BENJAMIN EARL P 092
1004 DRESSER COURT, STE. 108 A AC
RALEIGH 27609 919 876-0287

BRITT, SAMUEL EMERSON, II GS 078
295 W. 27TH ST. A AC
LUMBERTON 28358 919 738-8556

BRITT, TILMAN CARLISLE, JR. CD /IM 086
216 GRACE STREET AC
MOUNT AIRY 27030 919 786-5745

BRITTIAN, LOWELL ELLIS GP 060
1900 CLOISTER DRIVE AC
CHARLOTTE 28211 704 366-1809

BRITTON, BLOYCE HILL, JR. OTO /OT 034
BOWMAN GRAY, DEPT. OF OTO A AC
WINSTON-SALEM 27103 919 745-4161

BROADBENT, BRYAN, J.H. 034
1219 CHURTON ST. #41 A S
WINSTON-SALEM 27103 919 721-9971

BROADWELL, FREEMAN EDWARD, III 034
306 SPLIT RAIL CIR., APT. 201 A S
NEWPORT NEWS, VA 23602 919 727-1075

BROCK, JULIAN STANLEY R 064
200 ENGLEWOOD DRIVE A L/RT
ROCKY MOUNT 27804 919 443-1353

BRODER, MICHAEL SYLVAN DR 029
PO BOX 789 A AC
THOMASVILLE 27360 919 472-2000

BRODEUR, DAVID 032
4800 UNIVERSITY DR. #24B A S
DURHAM 27707 919 493-6718

BRODIE, BRUCE ROGERS CD /IM 041
721 GREEN VALLEY RD. A P AC
GREENSBORO 27408 919 378-0774

BRODKIN, RICHARD ALAN /HEM 034
2825 LYNDHURST AVE., STE. 103 A AC
WINSTON-SALEM 27103

BROMBERG, PHILIP ALLAN IM /PUD 032
724 CLI. SCI. BLDG. 229-H AC
UNC, DIV. PULMONARY DISEASE
CHAPEL HILL 27514 919 966-2531

BROOKS, CHARLES MICHAEL OBG 054
KINSTON CLINIC NORTH A AC
DOCTORS DR., STE. E
KINSTON 28501 919 522-3373

BROOKS, CLYDE LONG, JR. IM 032
934 HUNSWOOD LANE A R
CHARLOTTESVILLE, VA 22901 804 293-8569

BROOKS, JAMES TAYLOR IM 041
1100 N. ELM STREET A P AC
GREENSBORO 27401 919 273-8658

BROOKS, JEAN BAILEY GYN 041
1100 N. ELM STREET A P AC
GREENSBORO 27401 919 273-8658

BROOKS, JOHN IRVING, JR. IM 033
TARBORO CLINIC A AC
101 CLINIC DR.
TARBORO 27886 919 823-2105

BROOKS, MARTIN LUTHER GP 078
711 HIGHWAY E. A AC
P. O. BOX 37
PEMBROKE 28372 919 521-4221

BROOKS, MICHAEL LEE IM 078
206 W. 27TH ST. A AC
LUMBERTON 28358 919 738-1421

BROOKS, RALPH ELBERT, JR. U 040
624 QUAKER LANE, SUITE D-100 A * AC
HIGH POINT 27262 919 886-5151

BROOKS, THOMAS WILLIAM, III R/NM 018
521 THIRD AVENUE, N.W. A * AC
HICKORY 28601 704 322-2644

BROOKS, WILLIAM LESTER, JR. IM /RHU 060
1851 E. THIRD STREET A AC
CHARLOTTE 28204 704 333-4175

BROSKIE, NANCY ELAINE 032
K-12 THE VILLAGES APTS. A S
CARRBORO 27510 919 966-0615

BROWN, ALAN REID DR 044
105 TIMOTHY LANE A L/RT
WAYNESVILLE 28786 704 452-5578

BROWN, ALBERT BELMONT GYN 065
1615 DOCTOR'S CIR. A AC
WILMINGTON 28401 919 343-1122

BROWN, ANN CARLSON P/CHP 060
1900 RANDOLPH RD., STE. 900 AC
CHARLOTTE 28207 704 333-7722

BROWN, ANNE BARBARA 034
2055-A ACADEMY ST. A * S
WINSTON-SALEM 27103 919 722-2275

BROWN, CHARLES WILLIAM GYN /OBS 060
2127 QUEENS ROAD, EAST A L/RT
CHARLOTTE 28207 704 333-9852

BROWN, DANIEL ELMER PD 092
3001 ESSEX CIRCLE A AC
RALEIGH 27608 919 782-0021

BROWN, DAVID WARREN IM 032
891 W. WILLOW DRIVE AC
CHAPEL HILL 27514 919 942-5123

BROWN, ERNEST HYDE, JR. OBG 078
4300 FAYETTEVILLE ROAD A AC
LUMBERTON 28358 919 738-9601

BROWN, FRANK MAC ORS 045
1027 FLEMING STREET AC
HENDERSONVILLE 28739 704 692-5781

BROWN, FRANK REID IM 041
1103 COUNTRY CLUB DRIVE A L/RT
GREENSBORO 27408 919 272-5048

BROWN, GEORGE WALLACE FP 044
102 BROWN AVENUE A * AC
HAZELWOOD 28738 704 456-6021

BROWN, HOWARD RICHARD ORS 032
4006 WESTFIELD DR. A R
DURHAM 27705 919 383-1617

BROWN, JAMES WALTER, JR. OTO /HNS 013
633 GRANDVIEW DR., NE A L/RT
CONCORD 28025 704 786-3174

BROWN, JAY HOWARD JOEL AN 0
MAINE COAST MEM. HOSPITAL A
ELLSWORTH, ME 04605

BROWN, KERMIT ENGLISH OBG 0
398 CHUNNS COVE ROAD A L/R
ASHEVILLE 28805 704 252-51

BROWN, MICHAEL ASHLEY 0
114 FLETCHER PLACE A
GREENVILLE 27834 919 758-33

BROWN, MICHAEL W. U 0
4518 CHESHIRE CT. A A
DURHAM 27705 919 684-20

BROWN, PAUL EUGENE ORS 0
250 18TH ST. CIR. SE A A
HICKORY 28602 704 322-51

BROWN, RAEFORD E., JR. AN 0
300 S. HAWTHORNE RD. A
WINSTON-SALEM 27103 919 748-44

BROWN, ROBERT CALVIN CLP /PTH 0
801 GREEN VALLEY RD. A * A
GREENSBORO 27408 919 378-28

BROWN, RONALD LAUCHLIN OBG 0
2711 RANDOLPH RD. STE. 305 * A
CHARLOTTE 28207 704 372-80

BROWN, SUSAN EVANS FP 0
5501 FORTUNE'S RIDGE, STE. A A
DURHAM 27713 919 493-88

BROWN, TERRY MICHAEL P 0
134 LOBLOLLY LANE A
CHAPEL HILL 27514 919 967-25

BROWN, THOMAS LAWRENCE OBG 0
145 AFTONSHIRE COURT A
WINSTON-SALEM 27104 919 765-28

BROWN, VASCUE O'NEIL P 0
3532 MOUNTAINBROOK ROAD A
CHARLOTTE 28210 704 553-11

BROWN, WALTER JOHN PH 0
79 TRUNDLE RDG.FEARRINGTON A A
PITTSBORO 27312 919 933-93

BROWN, WILLIAM LEE IM 0
P. O. DRAWER 158 A A
ROANOKE RAPIDS 27870 919 537-01

BROWN, WILLIAM RAY, JR. HNS 0
3080 TRENWEST DR. A A
WINSTON-SALEM 27104 919 765-37

BROWNING, DAVID JUDSON OPH 0
1600 E. THIRD ST. A
CHARLOTTE 28204 704 371-31

BROWNING, DOUGLAS GUY 0
2050 CRAIG ST., APT. 23 A
WINSTON-SALEM 27103 919 723-66

BROWNLEE, ROBERT CALVIN PD 0
111 SILVER CEDAR COURT A A
CHAPEL HILL 27514 919 929-04

BRUBECK, ELLEN TEMPLE FP /GER 0
238 SMITH CHAPEL RD. A A
MOUNT OLIVE 28365 919 658-49

BRUCE, JAMES CRAWFORD IM /CD 0
1036 PROFESSIONAL VILLAGE A A
GREENSBORO 27401 919 378-91

BRUCH, RICHARD FRANKLIN ORS /GER 0
TRIANGLE ORTHOPAEDIC ASSOC. A P * A
2609 N. DUKE STREET
DURHAM 27704 919 471-84

BRUGGERS, BARRY ALAN OBG 0
121 EDINBURGH SOUTH, #103 P A
CARY 27511 919 467-59

BRUMBACK, GEORGE FRANKLIN OPH 0
1105 MONTPELIER A P A
GREENSBORO 27401 919 274-46

BRUNER, ROBERT KINCAID 0
1732 CAMDEN ROAD A
WINSTON-SALEM 27103 919 723-55

BRUNETTI, LOUIS LEO IM 0
1350 S. KINGS DR. A
CHARLOTTE 28207 919 493-19

BRUSINO, FRANCIS GREGORY AN 0
3230-J MYRA ST. A
DURHAM 27707 919 489-27

BRUTON, HENRY DAVID PD 0
195 W. ILLINOIS AVE. A * A
SOUTHERN PINES 28387 919 692-24

BRYAN, EDWIN LANCASTER IM /CD 0
200 E. NORTHWOOD STREET A P * A
GREENSBORO 27401 919 274-76

YAN, JAMES ALEXANDER, II IM /HEM 032
C MEMORIAL HOSPITAL * AC
EPT. OF MEDICINE
HAPEL HILL 27514 919 966-2268

YAN, JOHN HUGH TR /HEM 026
EPT OF RADIATION THERAPY A P AC
OX 41208, CAPE FEAR MED. CTR.
AYETTEVILLE 28304 919 323-6690

YAN, THOMAS RHUDY, JR. PD /OBS 097
IEDICAL ARTS BUILDING AC
. O. BOX 1163
IORTH WILKESBORO 28659 919 838-2500

YAN, WILLIAM ALEXANDER, III PD 011
STON PARK CENTER A AC
3 S. FRENCH BROAD AVENUE
SHEVILLE 28801 704 258-0969

YAN, WILLIAM BLAIR PD 060
700 ABBEY PLACE A AC
HARLOTTE 28209 704 523-7232

YANT, JAMES EDWARD FP 064
. O. BOX 589 AC
OCKY MOUNT 27801 919 977-6701

YANT, JAMES EDWIN IM 086
. O. BOX 68 AC
ADKINVILLE 27055 919 679-2041

YANT, LYNETTE 074
O BOX 7069 A S
REENVILLE 27835

YANT, WILLIAM FRANKLIN, JR. PD 060
700 ABBEY PLACE A AC
HARLOTTE 28209 704 523-7232

CHANAN, HARRY GLENN FP 061
03 BROAD STREET AC
SPRUCE PINE 28777 704 765-7361

CHANAN, ROBERT A., JR. CD /IM 032
609 N. DUKE ST., STE 403 A AC
URHAM 27704 919 471-8441

CHIN, DAVID LEE EM /P 092
4212 CROSS CREEK ROAD AC
RALEIGH 27614 919 876-8333

CKALEW, VARDAMAN M. JR. NEP /IM 034
300 S. HAWTHORNE ROAD A AC
WINSTON-SALEM 27103 919 748-2062

CKLEY, EDWARD GEORGE OPH /PD 032
BOX 3802, DUKE EYE CENTER A * AC
URHAM 27705 919 684-6084

CKWALTER, JOSEPH ADDISON GS 032
NCMH, DEPT. OF SURGERY A AC
CHAPEL HILL 27514 919 966-4220

JFF, SAMUEL JOSEPH DR 025
P. O. BOX 2065 A AC
NEW BERN 28560 919 633-5057

JFFONG, ERIC ARNOLD OBG /END 067
1703 COUNTRY CLUB RD.,STE.203 A P AC
JACKSONVILLE 28540 919 346-2182

JGG, CHARLES PAULETT PD 092
DIV. OF SOCIAL SERVICE-DDS P AC
PO BOX 243
RALEIGH 27602 919 733-4484

JGG, EVERETT IRVING, JR. ORS 032
RT. #2, BOX 143 A L
PITTSBORO 27312 919 286-1249

JIE, RODERICK MARK, JR. IM /CD 041
101-F N. PARK DR. A P L/RT
GREENSBORO 27401

JJARD, ROBERT S., JR. P 012
331 N. FIRST STREET A P AC
ALBERMARLE 28001 704 433-2058

JJOLD, EDWARD JAMES FP 012
12 DUDLEY AVE. AC
GRANITE FALLS 28630 704 396-3168

UKHARI, MUSHTAQ AHMAD GE /IM 012
DOCTOR'S CLINIC A AC
RUTHERFORD COLLEGE
VALDESE 28690 704 437-8314

ULLA, JEFFERSON DAVIS, II FP 001
780 WOODY DRIVE AC
GRAHAM 27253 919 228-1354

ULLARD, DENNIS EUGENE NS 032
BOX 3128, DUMC A AC
DURHAM 27710 919 684-2766

ULLARD, GEO. M., JR. FP 001
202 S. FIFTH ST. A AC
MEBANE 27302

BULLARD, HOKE VOGLER, JR. IM 098
WILSON CLINIC A * AC
WILSON 27893 919 291-7001

BULLEN, DORIS C.M. P 063
PO BOX 56 AC
DARTMOUTH CLINIC, PA
SOUTHERN PINES 28387 919 692-6471

BULLINGTON, WALTER GRAHAM OPH /AM 060
4335 COLWICK RD. A P * AC
CHARLOTTE 28211 704 364-7400

BULLOCK, THURMAN MONROE, JR. FP /A 024
PO BOX 465 A AC
CHADBOURN 28431 919 654-5369

BULLOCK, WILLIAM ROBERT IM /OM 060
217 TRAVIS AVENUE A AC
CHARLOTTE 28204 704 372-3350

BUMGARNER, JOHN HENRY AN /PUD 080
P. O. BOX 1735 A P AC
SALISBURY 28144 704 638-1000

BUMGARNER, JOHN REED CD /CD 041
221 MISTLETOE DR. A L/RT
GREENSBORO 27403 919 373-1123

BUNCE, PAUL LESLIE U 032
ROUTE #7, BOX 646 L/RT
CHAPEL HILL 27514 919 933-8766

BUNDY, WILLIAM LUMSDEN IM /GP 097
DOCTORS BLDG. A L
PO BOX 786
N. WILKESBORO 28659 919 838-2442

BUNN, DAVID GLENN GP 024
EAST MAIN STREET AC
WHITEVILLE 28472 919 642-2016

BUNN, DAVID GLENN, JR. OBG 065
2215 CANTERWOOD DR. AC
WILMINGTON 28401 919 763-1031

BURAPAVONG, THAVIJ DAVID PS /GS 040
416 GATEWOOD AVENUE AC
HIGH POINT 27260 919 882-2531

BURBA, ALONZO RICHARD FP 098
1700 S. TARBORO ST. A AC
WILSON 27893 919 291-1300

BURCH, LARRY THOMAS P 045
3 ESSEX LANE A AC
HENDERSONVILLE 28739 919 768-6930

BURCH, WILLIAM HOBART FP 045
BOX 285, HARRIS RD AND 74 A AC
LAKE LURE 28746 704 625-9121

BURCHEL, HAROLD CURTIS FP 029
201 W. HOLLY HILL ROAD A AC
THOMASVILLE 27360 919 475-2915

BURCHETTE, BRUCE WILSON 074
G-6 DOCTOR'S PARK APTS. A S
GREENVILLE 27834 919 758-6981

BURCHFIELD, WILLIAM JOHN OPH 013
500 LAKE CONCORD RD., NE A AC
CONCORD 28025 704 782-1127

BURDETTE, FRED MCPHERSON, JR. GP 065
1221 D COLUMBUS CIRCLE A L/RT
WILMINGTON 28403 919 457-6865

BURDICK, RICHARD LAWRENCE IM 098
1704 S. TARBORO ST. A AC
WILSON 27893 919 291-7001

BURGESS, GLENN NORMAN P 034
190 CHARLOIS BOULEVARD A AC
WINSTON-SALEM 27103 919 768-6930

BURGESS, WILLIAM PATRICK NEP /IM 060
928 BAXTER STREET A AC
CHARLOTTE 28204 704 374-1321

BURHANS, ROLLIN SCOFIELD, JR. GS 032
1830 HILLANDALE ROAD A * AC
DURHAM 27705 919 383-5531

BURKART, JOHN IM /NEP 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-3963

BURKART, THOMAS ELMA NEP 074
6 DOCTOR'S PARK A * AC
GREENVILLE 27834 919 752-8880

BURKE, ANNETTE BLACKMON PD 078
4117 VANN DRIVE AC
LUMBERTON 28358 919 739-0243

BURKE, DAVID JOSEPH ORS 013
528 LAKE CONCORD ROAD, N. E. A AC
PO BOX 1606
CONCORD 28025 704 788-3155

BURKE, JAMES GILLUM ORS 086
414 W. LEBANON STREET A P AC
P. O. BOX 1544
MOUNT AIRY 27030 919 789-9041

BURKE, JAMES OTIS, JR. PD 029
8 MEDICAL PARK DRIVE AC
LEXINGTON 27292 704 249-4911

BURKE, JOSEPH ANTHONY R 078
4117 VANN DRIVE A AC
LUMBERTON 28358 919 276-2121

BURKE, PATRICK PD 060
5950 FAIRVIEW RD. STE. 100 AC
3 FAIRVIEW PLAZA
CHARLOTTE 28210 704 551-4200

BURKE, WILLIAM ALLEN D 074
502 WINSTEAD RD. A AC
GREENVILLE 27834 919 551-2555

BURKHARDT, NATHAN LESLIE, JR. ORS 011
129 MCDOWELL ST. A AC
ASHEVILLE 28801 704 258-8800

BURKHART, CECIL ROBERT PTH /CLP 079
1006 OAKCREST DRIVE AC
REIDSVILLE 27320 919 349-8461

BURKHART, CHARLES ANDREW IM /GP 034
345 WESTVIEW DRIVE, S.W. A AC
WINSTON-SALEM 27104 919 761-1541

BURKHART, VERNON ANDERSON OM /IM 041
2700 W. MARKET ST. AC
GREENSBORO 27403 919 379-6961

BURLESON, WILLIAM ROWELL U 078
101 WEST 27TH STREET A AC
LUMBERTON 28358 919 738-7166

BURNETT, JOHN WESLEY, JR. FP 025
810 KENNEDY AVE. A AC
NEW BERN 28560 919 633-1678

BURNETTE, HOWARD OLSEN GP 076
108 N. COBLE STREET A RT
RANDLEMAN 27317 919 498-2500

BURNETTE, J. P. IM 098
ENGLEWOOD DR., KENLY CLI. A AC
KENLY 27542 919 284-5151

BURNEY, DONALD PATRICK CDS /TS 041
1317 N. ELM ST., STE. 1 A AC
GREENSBORO 27401 919 373-8245

BURNEY, FREDRIC ARLEN FP 004
402 MORVEN ROAD AC
WADESBORO 28170 704 694-2129

BURNHAM, STEVEN JAMES GS 032
UNC, DEPT. OF VS A AC
229-H CLINICAL SCIENCE BLDG.
CHAPEL HILL 27514 919 966-3391

BURNS, MARGARET VIRGINIA P 011
146 VICTORIA ROAD A L
ASHEVILLE 28801 704 254-4616

BURNS, STANLEY SHERMAN, JR. OTO 060
1600 E. THIRD STREET A AC
CHARLOTTE 28204 704 372-3300

BURNS, WALTER WOODROW, JR. GS 032
901 WILLOW DRIVE A * AC
CHAPEL HILL 27514 919 967-8258

BURQUEST, BRET P 060
9600 PINEVILLE-MATTHEWS RD. A P AC
PO BOX 39
PINEVILLE 28134 704 541-0800

BURROUGHS, FRANKLIN DANFORD FP 070
P. O. BOX 248 A AC
HATTERAS 27943 919 986-2388

BURROUGHS, FREDERICK DOUGLAS PD 092
100 SUNNYBROOK ROAD, STE. 202 AC
RALEIGH 27610 919 821-3180

BURROUGHS, PAUL LEACH, JR. ORS 092
3410 EXECUTIVE DRIVE A P AC
RALEIGH 27609 919 872-5296

BURROUGHS, RUTH REUBEN PH /PD 092
6413 MARGATE COURT A RT
RALEIGH 27612 919 781-5015

BURRUS, JAMES HENRY GYN 023
P. O. BOX 1256 A AC
SHELBY 28150 704 482-2486

BURT, TERRENCE WILLIAM EM 011
405 WINDSWEPT DR. #703 AC
ASHEVILLE 28801 704 255-4032

BURTON, CLAUDE SHREVE,III D/IM 032
BOX 3511, DUMC AC
DURHAM 27710 919 684-5037

BURTON, EARL EDWARD, JR. D/IM 092
3900 BROWNING PLACE A * AC
RALEIGH 27609 919 782-2735

BURTON, HARRY G., III CDS /TS 011
257 MCDOWELL ST. A AC
ASHEVILLE 28803 704 258-1121

BURTON, LEROY MELVIN IM 092
100 SUNNYBROOK AC
RALEIGH 27610 919 821-1710

BURWELL, WALTER BRODIE IM 091
317 ORANGE STREET A L
HENDERSON 27536 919 438-5619

BUSBY, JULIAN GOODE, JR. OBG 040
307 N. LINDSAY ST. A AC
HIGH POINT 27260 919 885-0149

BUSBY, MERLE RUDY GS 080
901 W. HENDERSON STREET A AC
SALISBURY 28144 704 633-1581

BUSBY, WILLIAM JARVIS ORS 029
105 PINEYWOOD ROAD AC
THOMASVILLE 27360 919 475-8141

BUSCH, JAMES R. PD 098
1700 S. TARBORO ST. A AC
WILSON 27893 919 291-4370

BUSER, STEVEN DONALD 032
1707 WARD ST. A S
DURHAM 27707 919 493-3046

BUSH, JANICE KAREN PD /ADL 032
137 ESSEX DR. A AC
CHAPEL HILL 27514 919 248-2459

BUSHER, JANICE THERESE IM 074
133 ANTLER RD. A AC
GREENVILLE 27834 919 551-4633

BUSS, DAVID HUMPHREY PTH /HEM 034
237 GRANDVIEW DRIVE AC
WINSTON-SALEM 27104 919 748-2641

BUSSE, EWALD WILLIAM P/GER 032
BOX 2948, DUMC A P AC
DURHAM 27710 919 684-3416

BUSTARD, VICTOR WILLIAM OBG /GYN 025
1912 NEUSE BOULEVARD A AC
NEW BERN 28560 919 633-3339

BUTER, THOMAS HENRY ORS 060
120 PROVIDENCE ROAD A AC
CHARLOTTE 28207 704 377-0351

BUTLER, CAREY JONES OTO 026
516 OWEN DRIVE * AC
FAYETTEVILLE 28304 919 485-6101

BUTLER, FREDERICK CLARENCE, JR OPH 065
1915 GLEN MEADE ROAD A P * AC
WILMINGTON 28403 919 763-3601

BUTLER, JAMES HILTON R 034
3155 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27103 919 765-2702

BUTLER, LARRY STEPHEN OBG 053
1832 DOCTOR'S DR. P AC
SANFORD 27330 919 774-8761

BUTLER, RADFORD NORMAN IM 034
2240 CLOVERDALE AVE., STE. 206 A AC
WINSTON-SALEM 27103 919 725-7587

BUTLER, ROBERT HOYT GE 076
132 W. MILLER STREET A P AC
ASHEBORO 27203 919 625-3218

BUTTERLY, DAVID WM. 032
705 CROSSTIMBERS DR. A R
DURHAM 27713 919 684-8111

BUTTERWORTH, JOHN F., IV AN 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-2439

BUTTS, JOHN DAVIS, JR. FOP 032
OFF.OF CHIEF MEDICAL EXAMINER AC
CHAPEL HILL 27514 919 966-2253

BYERLY, JAMES HAMPTON GP 053
P. O. BOX 340 A L
SANFORD 27330 919 775-5932

BYERLY, WESLEY GRIMES, JR. GS 018
24 SECOND AVENUE, N.E. A * AC
HICKORY 28601 704 328-2231

BYLCIW, STANLEY ROBERT ORS 051
PO BOX 1538 A P AC
SMITHFIELD 27577 919 934-1094

BYNUM, DONALD K., JR. ORS /HS 032
245 BURNETT-WOMACK BLDG. 229-H A AC
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514 919 966-2030

BYNUM, ROBERT WILLIAM, IV NEP /IM 064
100 NASH MEDICAL ARTS MALL AC
ROCKY MOUNT 27801 919 443-9084

BYRD, CHARLES WILLIAM FP 043
P. O. BOX 698 A L/RT
DUNN 28334 919 892-2464

BYRD, KERRY WENDELL 034
152 CHARLESTOWNE CIRCLE A S
WINSTON-SALEM 27103 919 765-3033

BYRD, VERNON DALE 074
1015-B WESTOVER DR. A S
GREENVILLE 27834 919 551-1812

BYRD, WILLIAM EUGENE RHU /IM 042
1724 E. TENTH ST. AC
PO BOX 1093
WELDON 27890 919 535-1082

BYRNE, JOHN JACOB AN 060
PO BOX 32861 A AC
CHARLOTTE 28232 704 338-2372

BYRNES, THOMAS HENDERSON,JR. IM /CD 029
309 PINEYWOOD ROAD A * AC
THOMASVILLE 27360 919 475-8121

BYRNETT, JEFFREY WILLIAM GS /VS 001
1624 MEMORIAL DR. A AC
BURLINGTON 27215 919 229-6428

BYRON, ROBERT SILL P 011
675 BILTMORE AVENUE A AC
ASHEVILLE 28803 704 254-5369

BYRUM, CLIFFORD CONWELL GYN 092
2800 BLUE RIDGE RD., STE. 301 A L
RALEIGH 27607 919 782-0124

BYRUM, GRAHAM VANCE FP /GP 042
P. O. BOX 540 A AC
SCOTLAND NECK 27874 919 826-3143

BYRUM, GRAHAM VANCE, JR. IM /NEP 074
6 DOCTORS PARK A AC
GREENVILLE 27834 919 752-8880

CABERWAL, DALJIT SINGH U 076
P. O. BOX 1509 A AC
ASHEBORO 27203 919 625-3997

CABLE, THOMAS ALLEN FP 041
206 FISHER PARK CIRCLE A AC
GREENSBORO 27401 919 379-4132

CABRAL, DEBORAH BARBARA FP 029
208-B W. CENTER ST. A P AC
LEXINGTON 27292 704 249-2921

CABUGV.'ASON, LUCILA NOVAL GP 084
28 N. MAIN ST. AC
PO BOX 726
NORWOOD 28128 704 474-3317

CACERES, MARCO ANTONIO GS /TS 042
PO BOX 458 A AC
ROANOKE RAPIDS 27870 919 537-6525

CADDELL, TILLIE HORKEY GP 063
P. O. BOX 519 A L
PINEHURST 28374 919 295-5511

CAHN, JACK RICHARD FP 003
ROUTE #1, BOX 439 AC
SPARTA 28675 919 372-5606

CAIN, FRANK CORAL, JR. GP 036
224 NEW HOPE ROAD AC
GASTONIA 28052 704 865-8241

CAIN, JAMES RAVENEL NEP 074
ECU
GREENVILLE 27858 919 551-2545

CALABRETTA, ARTHUR MATTHEW PS 060
1012 KINGS DR., STE. 706 A AC
CHARLOTTE 28283 704 333-7791

CALDEMEYER, JOHN EVERETT DR 045
715 FLEMING ST. A AC
HENDERSONVILLE 28739 704 693-1441

CALDWELL, BRUCE FRANCIS EM /GS 082
P. O. BOX 1006 A AC
CLINTON 28328 919 592-8511

CALDWELL, DAVID STEWART RHU /IM 032
BOX 2978, DUMC A AC
DURHAM 27710 919 684-3313

CALDWELL, GEORGE LEONHARD,JR. 034
2038 QUEEN ST. A S
WINSTON-SALEM 27103 919 722-3629

CALDWELL, JESSE BURGOYNE, JR. GYN 036
1307 PARK LANE A P * L/RT
GASTONIA 28052 704 865-0968

CALDWELL, LAWRENCE M. II GE /IM 018
P. O. BOX 849 P AC
NEWTON 28658 704 464-4550

CALDWELL, LAWRENCE MCCLURE,SR. GP 018
406 S. COLLEGE AVE. A L/RT
NEWTON 28658 704 464-2330

CALDWELL, ROBERT MANFRED PH 086
227 GRACE ST. A L/RT
MOUNT AIRY 27030 919 374-2131

CALHOUN, AUBREY DANIEL IM 049
435 E. STATESVILLE AVE. A AC
MOORESVILLE 28115 704 663-4443

CALL, DAVID LEE DR 079
MOREHEAD MEM. HOSP.-RAD AC
EDEN 27288 919 623-9711

CALLAGHAN, WILLIAM M. OBG 044
PO BOX 427 AC
LAKE JUNALUSKA 28745 704 456-7369

CALLAHAN, JOSEPH BRODHEAD OBG 091
MEDICAL ARTS BUILDING A AC
HENDERSON 27536 919 492-8576

CALLAHAN, RICHARD DALE ON /HEM 011
1 DOCTOR'S DR. A AC
ASHEVILLE 28801 704 254-8232

CALLAWAY, CLIFFORD KAY EM 060
4600 HOLBROOK DR. AC
CHARLOTTE 28212 704 588-3418

CALLAWAY, JASPER LAMAR D 032
DUKE UNIV. MED. CTR. A * L/RT
DURHAM 27710 919 684-3432

CALLAWAY, SAMUEL CLAYTON, JR. OTO 065
2311 DELANEY ROAD * AC
WILMINGTON 28403 919 762-8754

CALLISON, WILLIAM JOSEPH ORS 011
STE. 101, 445 BILTMORE CENTER A AC
ASHEVILLE 28801 704 254-7271

CALTON, WILLIAM CUYLER, JR. 032
3625 MANFORD DR. A S
DURHAM 27707 919 493-5372

CAMBLOS, JOSHUA FRY BULLITT GS /GYN 011
17 FOREST ROAD A L/RT
ASHEVILLE 28803 704 274-2794

CAMERON, JOHN DARROCH FP 076
132-A W. MILLER ST. A AC
ASHEBORO 27203 919 625-1360

CAMNITZ, PAUL SAMUEL OTO 074
BOX 5007 A P AC
GREENVILLE 27834 919 752-5227

CAMP, EDWARD HAYS GS 044
112 BALSAM DRIVE A L/RT
WAYNESVILLE 28786 704 456-9858

CAMP, THOMAS FRANCIS, JR. IM /CD 092
2800 BLUE RIDGE, STE. 205 AC
RALEIGH 27607 919 782-0414

CAMPANO, MANUEL OSWALDO PTH 041
P. O. BOX X-3 A AC
GREENSBORO 27402 919 854-6462

CAMPBELL, ALLEN BARRY OBG 011
93 VICTORIA ROAD A AC
ASHEVILLE 28801 704 253-4821

CAMPBELL, CHARLES BRUCE, III OPH 034
2827 LYNDHURST AVE.,STE. 204 AC
WINSTON-SALEM 27103 919 768-0725

CAMPBELL, DIANE JANE OBG 074
2315 EXECUTIVE PARK CIR. A P AC
PO BOX 8307
GREENVILLE 27835 919 830-1035

CAMPBELL, DONALD BARNES IM 092
3100 BLUE RIDGE RD. A AC
RALEIGH 27612 919 781-7500

CAMPBELL, FRANCIS MICHAEL GS 049
503 E. STATESVILLE AVE. AC
MOORESVILLE 28115 704 663-7905

CAMPBELL, FRANK HIGHSMITH GS /TS 026
P. O. BOX 53651 A AC
FAYETTEVILLE 28305 919 485-6161

CAMPBELL, JAMES ARCHIBALD OBG 060
1955 RANDOLPH ROAD AC
CHARLOTTE 28207 704 376-3536

CAMPBELL, JEFFREY PAUL 032
APT. 16 HOLLAND DR. A S
CHAPEL HILL 27514

CAMPBELL, JOSEPH LESTER GPM /PH 098
306 FOREST HILLS ROAD A L
WILSON 27893 919 291-8523

CAMPBELL, PAUL THOMAS 032
1321 NEW CASTLE RD. APT. A-13 A R
DURHAM 27704 919 471-9244

AMPBELL, PETER BRUCE ID /IM 074
ECU SCH. OF MEDICINE A AC
GREENVILLE 27834 919 551-2550

AMPBELL, ROBERT RICHARD R 096
2700 MEDICAL OFFICE PLACE A P AC
GOLDSBORO 27530 919 734-1866

AMPBELL, WALKER HAWES OBG 096
2400 WAYNE MEMORIAL DRIVE A AC
GOLDSBORO 27530 919 734-3344

ANADAY, MAURICE LEWIS FP /CD 055
110 DOCTOR'S PARK AC
PO BOX 578
LINCOLNTON 28092 704 735-7413

ANDELA, STEPHEN JOSEPH ORS 010
PO BOX 260 A AC
SUPPLY 28462 919 754-4355

ANIPE, TOMMIE LEE GS /TS 040
P. O. BOX 5229 A AC
HIGH POINT 27262 919 887-3164

ANNON, EUGENE BOLIVIA PD 076
366 LEXINGTON ROAD A L/RT
ASHEBORO 27203 919 625-2460

ANNON, THOMAS BERNARD FP 034
2805 LYNDHURST AVENUE AC
WINSTON-SALEM 27103 919 768-8890

ANNON, WOODWARD GS 092
2800 BLUE RIDGE BLVD. STE. 305 A AC
RALEIGH 27607 919 781-7416

ANTLEY, LARRY KEITH END 034
2933 MAPLEWOOD AVE. A P AC
WINSTON-SALEM 27103 919 765-1640

ANUPP, TONY WAYNE IM 049
PO BOX 729 AC
MOORESVILLE 28115 704 663-5566

APIZZI, ROBERT LAWRENCE ON /HEM 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4464

APOROSSI, PAUL VINCENT OBG 018
PO BOX 2227 A AC
HICKORY 28603 704 322-4920

APPIELLO, DAVID LAWRENCE ORS 011
129 MCDOWELL STREET A P AC
ASHEVILLE 28801 704 258-8800

ARANDANG, NAPOLEON VELUZ IM /OM 041
AT&T TECHNOLOGIES, INC. AC
P. O. BOX 25000
GREENSBORO 27420 919 279-3627

ARBONELL, ANTONIO MIGUEL PS 092
3320 EXECUTIVE DR. STE. 222 A * AC
RALEIGH 27609

ARDWELL, WILLARD IM /CD 041
2312 LAFAYETTE A L/RT
GREENSBORO 27408 919 288-4740

AREY, ANDREW B. 074
13E COURTNEY SQUARE A R
GREENVILLE 27858 919 758-5510

ARLSON, KENNETH PAUL U 034
2932 LYNDHURST AVE. A AC
WINSTON-SALEM 27103 919 765-4021

ARLTON, THOMAS KERN, JR. PD 080
720 GROVE STREET * AC
SALISBURY 28144 704 636-5576

ARLTON, WILLIAM YARBOROUGH P 034
509 WESTOVER AVE. A AC
WINSTON-SALEM 27104 919 722-9939

ARMACK, KEITH K.K. FP 070
KITTY HAWK MEDICAL CTR. AC
SR 338-F
KITTY HAWK 27949 919 261-3848

ARMICHAEL, DENNIS D. CHP /P 060
2711 RANDOLPH RD., STE. 205 AC
CHARLOTTE 28207 704 372-5238

ARNES, ROBERT S., III AN 034
300 S. HAWTHORNE RD. AC
WINSTON-SALEM 27103 919 748-2927

ARNEY, CHARLES NOEL PTH 032
UNC, DEPT. OF PATHOLOGY AC
CHAPEL HILL 27514 919 966-4676

ARO, JOSE FRANCISCO END /IM 074
ECU, DEPT. OF MEDICINE A AC
GREENVILLE 27834 919 551-2571

ARPENTER,KENNETH C. GP 014
P. O. BOX 699 AC
LENOIR 28645 704 754-7861

ARR, DAVID RUDDLE 032
5407 SW 80TH TERR A * S
GAINESVILLE, FL 32608

CARR, HENRY JAMES, JR. IM 082
603 BEAMAN STREET A P * AC
CLINTON 28328 919 592-6114

CARR, JENIFER 034
248 S. SUNSET DR. A S
WINSTON-SALEM 27103 919 773-0369

CARR, JOHN FERGUSON, II D 032
1200 BROAD ST. A AC
DURHAM 27705 919 286-7903

CARR, KENT EMERSON IM 074
3404 MERRIFIELD RD. A R
ROCKY MOUNT 27804

CARR, MARJORIE BARNWELL PD 092
2800 BLUE RIDGE BLVD.,STE. 501 A AC
RALEIGH 27607 919 781-7490

CARR, RAYMOND EDWARD GS /TS 040
624 QUAKER LN., STE. C-101 A AC
HIGH POINT 27262 919 883-1348

CARR, WILLIAM C. PD 000
5394 PERSHING AVE. #2E A R
ST. LOUIS, MO 63112

CARROLL, BARBARA ANNE R 032
P. O. BOX 1357 A AC
HILLSBOROUGH 27278 919 684-2711

CARROLL, CHARLES FISHER, JR. PTH 013
CABARRUS MEMORIAL HOSPITAL A AC
CONCORD 28025 704 788-5987

CARROLL, FRANCIS MURRAY FP /A 024
104 SEVENTH AVENUE A AC
CHADBOURN 28431 919 654-3143

CARSON, CULLEY CLYDE, III U 032
BOX 3274, DUMC A AC
DURHAM 27710 919 684-2127

CARSON, JACK OLIVER FP 074
P. O. BOX 549 A AC
GRIFTON 28530 919 524-4463

CARSON, SHANNON STEWART 032
42-A STRATFORD HILLS APTS. A S
CHAPEL HILL 27514 919 968-8231

CARSWELL, JANE TRIPLETT FP 014
P. O. BOX 960 AC
LENOIR 28645 704 754-0541

CARTER, COLEMAN DELYNNE IM 060
217 TRAVIS AVENUE A AC
CHARLOTTE 28204 704 372-3350

CARTER, JAMES HARVEY P 032
BOX 3106, DUMC AC
DURHAM 27710 919 684-6102

CARTER, JAMES WALTER TS /GS 074
10 DOCTOR'S PARK A P AC
STANTONSBURG ROAD
GREENVILLE 27834 919 758-1747

CARTER, JOEL MILES TR 023
P. O. BOX 340 A AC
SHELBY 28150 704 487-3144

CARTER, JOHN JEFFERSON, JR. P 081
CITY RT. #3, 311 FAIRGROUND RD AC
SPINDALE 28160 704 287-2211

CARTER, MARGARET FRONEBERGER AN 034
FORSYTH MEMORIAL HOSPITAL A AC
3333 SILAS CREEK PARKWAY
WINSTON-SALEM 27103 919 760-5691

CARTER, NEEDHAM BATTLE IM /CD 064
3811 WOODLAWN RD. A RT
ROCKY MOUNT 27804 919 977-6746

CARTER, NUMA RICHARDSON, JR. FP 023
512 DIXON BOULEVARD A * AC
SHELBY 28150 704 487-7540

CARTER, PHILIPS JOHN ORS 041
315 W. WENDOVER AVENUE A P AC
GREENSBORO 27408 919 275-0724

CARTER, ROBERT WILSON IM /CD 001
KERNODLE CLINIC A * AC
BURLINGTON 27215 919 227-3621

CARTER, STEVEN RAYMOND AN 063
355 AZALEA RD. A * AC
SOUTHERN PINES 28387 919 692-2273

CARTY, BRIAN CLIFFORD 034
120-4 RAINRIDGE DR. A S
WINSTON SALEM 27104 919 765-7147

CARVER, DONALD D. 032
218 CONNER DR. APT. 24 A S
CHAPEL HILL 27514 919 968-6403

CARVER, GORDON MALONE, JR. TS /GS 032
114 CRUTCHFIELD ST. A AC
DURHAM 27705 919 286-1245

CASERIO, JAMES JOSEPH IM 045
547 N. JUSTICE ST. A * AC
HENDERSONVILLE 28739 704 692-5096

CASEY, DEBORAH M. 034
138 N. SUNSET DR. APT. #2 A * S
WINSTON-SALEM 27101 919 724-4442

CASEY, DENNIS NELSON DR 054
KINSTON CLINIC, NORTH A AC
KINSTON 28501 919 527-7077

CASEY, MARY FRANCES 032
210 CEDARWOOD LN. A S
CARRBORO 27510 919 942-4799

CASH, DAVID WAYNE FP 049
310 DAVIE AVE. A AC
STATESVILLE 28677 704 873-3269

CASHMAN, JOHN U 065
1905 GLEN MEADE ROAD A P * AC
WILMINGTON 28403 919 763-6251

CASHWELL, LEON FRANKLIN, JR. OPH 034
300 S. HAWTHORNE ROAD A * AC
WINSTON-SALEM 27103 919 748-4091

CASSIANO, COLEY JAMES FP 041
1016-A PROFESSIONAL VILLAGE AC
GREENSBORO 27401 919 379-1156

CASTELL, DONALD OVERTON GE 004
300 S. HAWTHORNE RD. AC
WINSTON-SALEM 27103 919 748-4612

CASTELLANI, WM. JOHN PTH 074
ECU SCHOOL OF MEDICINE A AC
DEPT. OF CLINICAL PATHOLOGY
GREENVILLE 27834 919 757-4928

CASTELLOE, THOMAS EDISON ORS 092
P. O. BOX 10707 A AC
RALEIGH 27605 919 781-5600

CATALANO, PHILIP M. D 057
1416 59TH ST. WEST A AC
BRADENTON, FL 33529 792 293-4000

CATENACCI, RICHARD AN 079
1114 MAIDEN LANE, APT. 10 AC
REIDSVILLE 27320 919 349-8461

CATHCART, CORNELIUS FITZHAROLD PD 091
MARIA PARHAM HOSPITAL AC
HENDERSON 27536 919 492-9565

CATHELL, EDWIN JENNINGS GS 029
P. O. BOX 440 A L/RT
LEXINGTON 27292 704 246-2745

CATO, ALLEN EASLEY, JR. PD /PUD 032
3030 CORNWALLIS RD. A AC
RESEARCH TRIANGLE PK 27709 919 248-4537

CATTIE, JOHN VINCENT GS /CDS 090
106 E. PHIFER STREET A AC
MONROE 28110 704 289-8528

CAUDLE, JOHN ALLEN P 060
1900 RANDOLPH RD., STE. 918 A P AC
CHARLOTTE 28207 704 333-7722

CAUGHEY, DALE WELLS, JR. IM 065
5305-A WRIGHTSVILLE AVENUE AC
WILMINGTON 28403 919 799-4220

CAUGHRAN, JOHN HAMILTON ORS 060
120 PROVIDENCE ROAD A AC
CHARLOTTE 28207 704 377-0351

CAUSEY, ANDREW JACKSON OPH /OTO 049
210 VALLEY STREAM ROAD L
STATESVILLE 28677 704 873-8337

CAVALLO, MARTYN J. 032
130-N E. LONGVIEW RD. A S
CHAPEL HILL 27514 919 942-2342

CAVANAUGH, PATRICK JOSEPH TR 092
4420 LAKE BOONE TRAIL A AC
RALEIGH 27607 919 783-3018

CAVENDER, CARY PAUL 074
202-B SHILOH DR. A S
GREENVILLE 27834 919 355-7327

CAVENESS, MICHAEL BRYAN 032
1453-B CAMERON COURT A S
WILMINGTON 28401

CAVINESS, VERNE STRUDWICK CD /IM 092
913 VANCE STREET A L/RT
RALEIGH 27608 919 832-4258

CECH, ALEX CHARLES 032
BOX 2710, DUMC A S
DURHAM 27710 919 383-8355

CECIL, STEPHEN GERARD AN 096
607 WOODBERRY DR. A AC
GOLDSBORO 27530 919 731-6089

CEFALO, ROBERT CHARLES OBG /NPM 032
430 LAKESHORE LANE AC
CHAPEL HILL 27514 919 966-1601

CELESTINO, FRANK SAMUEL FP 034
3400 YORK ROAD A AC
WINSTON-SALEM 27104 919 748-2258

CELLA, JOHN ROBERT R 092
P. O. BOX 19509 A * AC
RALEIGH 27619 919 833-1407

CHALFA, NICOLAI AN 040
P. O. BOX 1864 A AC
HIGH POINT 27261 919 882-2567

CHALFANT, WILLIAM PAXSON GS /CDS 013
56 LAKE CONCORD ROAD, N.E. A P AC
CONCORD 28025 704 786-1104

CHALLA, VENKATA RAMANA PTH /NA 034
200 FLINTSHIRE ROAD A AC
WINSTON-SALEM 27104 919 768-0591

CHAMBERLAIN, JACK KENNETH HEM /ON 074
ECU, SCHOOL OF MEDICINE A AC
GREENVILLE 27834 919 551-2560

CHAMBERLAIN, MATTHEW P. 074
136 FOREST ACRES DR. A S
GREENVILLE 27834 919 551-3267

CHAMBERLIN, HARRIE ROGERS PD 032
UNC, DEPT. OF PEDIATRICS L/RT
CHAPEL HILL 27514 919 966-5171

CHAMBERS, ARTHUR LLOYD EM 064
3619 WESTRIDGE CIRCLE DR. * AC
ROCKY MOUNT 27801 919 443-8172

CHAMBERS, KENNETH HENLEY OBG 060
700 E. STONEWALL ST., STE. 220 A AC
CHARLOTTE 28202 704 377-0711

CHAMBERS, ROBERT EDWARD PD 036
1839 E. GARRISON BOULEVARD AC
GASTONIA 28054 704 864-2685

CHAMBERS, ROBERT TILLMAN PD 034
104 BETHESDA MEDICAL CENTER A AC
WINSTON-SALEM 27103 919 765-5242

CHAMBLEE, DONALD VANCE FP 060
211 S. SHARON AMITY ROAD A * AC
CHARLOTTE 28211 704 366-7586

CHAMBLEE, HUBERT ROYSTER, JR. OPH 092
20 ENTERPRISE STREET A * AC
RALEIGH 27607 919 829-1948

CHAMBLEE, JOHN SIGMA PH /GPM 064
509 E. CHURCH STREET A L/RT
NASHVILLE 27856 919 459-2223

CHAMBLISS, JOHN RANDOLPH IM 064
100 NASH MEDICAL ARTS MALL A AC
ROCKY MOUNT 27801 919 443-9084

CHAN, KRAMMIE M. 032
1424-D2 WYLDEWOOD RD. A S
DURHAM 27704 919 477-3083

CHAN, STEVEN PING 034
BOWMAN GRAY STUDENT BOX 91 S
WINSTON-SALEM 27103 919 724-1708

CHANCE, JAMES KENNETH OPH 025
802 MCCARTHY BLVD. A AC
NEW BERN 28560 919 633-4183

CHANDLER, ARTHUR CECIL, JR. OPH 032
1830 HILLANDALE ROAD A AC
DURHAM 27705 919 383-5531

CHANDLER, EDGAR TED IM 034
741 HIGHLAND AVE. A AC
WINSTON-SALEM 27101 919 727-2097

CHANDLER, HOWARD CHRISTY, JR. 034
3716 S. W. 2ND PLACE A S
GAINESVILLE, FL 32607 919 722-3709

CHANDLER, JOE THURSTON NEP /IM 060
928 BAXTER STREET A AC
CHARLOTTE 28204 704 374-1321

CHANG, JOHN SHYUEYI OBG 055
P. O. BOX 715 A AC
LINCOLNTON 28092 704 732-3346

CHAPIN, JOHN HARMON FP 005
ROUTE #2, BOX 130 AC
LANSING 28643 919 982-2158

CHAPLIN, CHARLES HAL PS /GS 060
2215 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 372-6846

CHAPLIN, DON CLARENCE IM /CD 001
KERNODLE CLINIC, INC. A P * AC
BURLINGTON 27215 919 227-3621

CHAPLINSKI, THOMAS JOSEPH ON /HEM 074
1705 W. 6TH ST. A AC
GREENVILLE 27834 919 752-6101

CHAPMAN, CHARLES GRANGER BLB 060
6134 DEVERON DRIVE A RT
CHARLOTTE 28211 704 366-2057

CHAPMAN, GEOFFREY SEWALL HEM /ON 060
2400 CLOISTER DR. AC
CHARLOTTE 28211 704 372-8750

CHAPMAN, JESSE PUGH, JR. TS /GS 011
520 BILTMORE AVENUE L/RT
ASHEVILLE 28801 704 252-7357

CHAPMAN, LYNNE WAGONER IM 074
106 BERKSHIRE ROAD A R
GREENVILLE 27858 919 756-5966

CHAPMAN, ROBERT AMASA FP 006
P. O. BOX 728 AC
BANNER ELK 28604 704 898-4828

CHAPMAN, SHELLEY J. 032
UNC-CH 121 MACNIDER BLDG. A S
CHAPEL HILL 27514 919 722-7006

CHAPMAN, TODD MASTERS ORS 060
1822 BRUNSWICK AVE. A AC
CHARLOTTE 28207 704 373-0544

CHARLTON, JOHN DAVID A 041
1301 W. WENDOVER AVENUE A L
GREENSBORO 27408 919 275-0441

CHARLTON, LEI SHERRIE IM 091
HEALTHCO INC. AC
PO BOX 425
MANSON 27553 919 456-2181

CHARLTON, OLIVER PATRICK DR 092
4420 LAKE BOONE TRAIL A AC
RALEIGH 27607 919 755-3023

CHASE, ROBERT EUGENE AN 041
1816 PEMBROKE RD., STE. #2 P AC
GREENSBORO 27408 919 272-3720

CHASSON, ALBERT LEON PTH 092
REX HOSPITAL A AC
RALEIGH 27607 919 755-3058

CHATTERJEE, BENU IM 092
4940-C NORTH BLVD. AC
RALEIGH 27604 919 878-3838

CHAUDHRY, ABDUL GHAFOOR CDS /GS 092
2800 BLUE RIDGE BLVD. STE. 306 A AC
RALEIGH 27607 919 782-7900

CHAUDHRY, HASHMAT ALI OPH 042
725-C HAMILTON ST. A P AC
ROANOKE RAPIDS 27870 919 537-0522

CHAUDHURI, DEBI PRASAD GS 026
1617 OWEN DRIVE AC
FAYETTEVILLE 28304 919 323-0101

CHEANEY, RUSSELL ALAN AN 023
300 GROVER ST. P AC
SHELBY 28150 704 482-5716

CHEEK, GEORGE WASHINGTON, JR. GS 001
317 ENGLEMAN A RT
BURLINGTON 27215 919 584-6551

CHEEK, JOHN MERRITT, JR. GS 032
1414 KENT STREET A L/RT
DURHAM 27707 919 489-1241

CHEEK, THOMAS SIDNEY IM 051
601-C N. 8TH STREET AC
SMITHFIELD 27577 919 934-2310

CHEELY, GEORGE RAYBURN CD /IM 092
3020 NEW BERN AVE., STE. 420 A P AC
RALEIGH 27610 919 781-7557

CHEESBOROUGH, JOHN DAVIDSON D 053
827 S. HORNER BOULEVARD AC
SANFORD 27330 919 775-7926

CHEN, CHIH-CHENG FRANK N 065
1608 WELLINGTON AVENUE A AC
WILMINGTON 28401 919 395-5521

CHEN, KEH-FANG OBG 023
604 W. KING ST. AC
KINGS MOUNTAIN 28086 704 739-8059

CHEN, KEH-FANG OBG 023
604 W. KING ST. AC
KINGS MOUNTAIN 28086 704 739-8059

CHEN, TONG YONG AN 060
PO BOX 33549 A AC
CHARLOTTE 28233 704 371-4049

CHEREN, ISA 034
1900 QUEEN ST., APT. C-8 A S
WINSTON-SALEM 27103 919 724-3782

CHERRY, JEAN MICHELE 032
38-C LAUREL RIDGE A * S
HWY 54
CHAPEL HILL 27514 919 968-0846

CHERRY, WILLIAM HILL, JR. OBG 049
519 BROOKDALE DR. AC
STATESVILLE 28677 704 873-6483

CHESSON, ARTHUR SAUNDERS, JR. PD 065
1501 DOCK ST. AC
WILMINGTON 28401 919 762-1744

CHEWNING, SAMUEL JACKSON, JR. ORS 060
1822 BRUNSWICK AVE. A AC
CHARLOTTE 28207 704 372-9820

CHI, HONG YUP FP 018
105 N. MAIN AVENUE A AC
NEWTON 28658 704 464-5424

CHIARAMONTI, ALEXANDER D 092
101 CARY PKWY. SW, #210 A P AC
CARY DERMATOLOGY CTR.
CARY 27511 919 467-8556

CHIAVETTA, STEPHEN VICTOR PTH /HEM 092
4420 LAKE BOONE TRAIL A AC
RALEIGH 27607 919 755-3040

CHICCONE, THOMAS GERARD EM 034
1711 LYNWOOD AVE. A AC
WINSTON-SALEM 27104 919 765-9328

CHIKES, PETER GEORGE OTO 013
34 ARDSLEY AVE., NE A P * AC
CONCORD 28025 704 782-2166

CHILDERS, MELVIN DAVIS, JR OPH 060
1928 RANDOLPH RD., STE. 109 P AC
CHARLOTTE 28207 704 372-3070

CHILDERS, TERRY CELY PD 011
131 MCDOWELL ST. AC
ASHEVILLE 28801 704 254-9811

CHILES, NOAH HAMPTON IM 040
501 WESTWOOD AVENUE A AC
HIGH POINT 27262 919 882-3911

CHIMIAK, JAMES MICHAEL 032
303 EFFINGHAM ST. APT. 4J A S
PORTSMOUTH, VA 23704 919 395-6840

CHIPLEY, PATRICK LINCOLN GP 011
P. O. BOX 399 AC
ENKA 28728 704 667-2531

CHITWOOD, WALTER R., JR. CDS /TS 074
106 JAMESTOWN ROAD A AC
GREENVILLE 27834 919 551-4822

CHIULLI, RICHARD ALLEN GS 063
137 JAMES CREEK ROAD A AC
SOUTHERN PINES 28387 919 295-1141

CHOI-CHUNG, MOON SOOG PM 050
EASTGATE CENTER AC
SYLVA 28779 704 586-5508

CHOI, SAN HO GS 056
102 DOCTORS BUILDING A AC
FRANKLIN N C 28734 704 524-7464

CHOKSI, JANAK KANTILAL ON /IM 001
405 RUDD ST. B AC
BURLINGTON 27215 919 226-0276

CHOONG, HAN PYO GS 002
P. O. BOX 548 A AC
503 THIRD STREET, SW
TAYLORSVILLE 28681 704 632-7467

CHOW, CAROLINE CHIA-LIN 032
311 S. LASALLE ST.# 50P A S
DURHAM 27705 919 286-4154

CHOW, GREGORY HENKUO 032
#9 GEORGETOWN CT. A S
DURHAM 27705 919 383-6849

CHRISTAKOS, ARTHUR CHRIS GYN 032
BOX 2976, DUMC A AC
DURHAM 27710 919 684-4647

CHRISTENSEN, FRANK HOWARD OPH /PS 032
109 CONNER DR., STE. 2207 A AC
CHAPEL HILL 27514 919 933-1294

CHRISTENSEN, HARVEY EARL GS /TS 018
ROUTE #2, BOX 190 AC
CONOVER 28613 704 322-9105

CHRISTIAN, BERNIE JOSEPH GP /OM 041
948 WALKER AVENUE A AC
GREENSBORO 27403 919 275-7665

CHRISTIANSON, DANA JOHN OPH 088
102 WATER OAK SUITES A P AC
BREVARD 28712 704 884-7320

CHRISTOPHER, WILLIAM EDWARD,JR P 060
242 S. COLONIAL AVE. A AC
CHARLOTTE 28207 704 375-4405

CHRYSLER, CHARLES OTIS FP 060
3894 E. INDEPENDENCE BLVD. A AC
CHARLOTTE 28205 704 537-5424

CHUNG, HONG-YILL GP 067
407 CARMEN AVENUE AC
JACKSONVILLE 28540 919 353-2800

CHUNG, IL WHAN U 050
SYLVA UROLOGICAL CLINIC, PA AC
EASTGATE CENTER
SYLVA 28779 704 586-5507

CHUNG, JOSEPH YANGSOO GS /GP 059
1200 MEDICAL COURT A AC
MARION 28752 704 652-5818

CHUNG, WAN SOO GP 007
320 MCCASKEY ROAD A AC
WILLIAMSTON 27892 919 792-1071

CHUNG, ZUN SUB FP /EM 040
2926 S. MAIN STREET A AC
HIGH POINT 27263 919 434-3118

CHURCH, JACK LEE R/IM 012
BOX 104, BROUGHTON HOSP. * AC
MORGANTON 28655 704 433-2256

CHURCHILL, CAROL ANN 032
100-A TALL OAKS RD. A S
CHAPEL HILL 27514 919 967-0763

CILIBERTO, SAMUEL DAVID ORS 053
101 S. VANCE STREET A P AC
SANFORD 27330 919 776-0551

CINTRON, RUBEN 034
300 S. HAWTHORNE RD. A P S
MED. STUDENT, BOX 336
WINSTON-SALEM 27103 919 773-1564

CISZEK, THOMAS ARTHUR NPM /PD 026
PO BOX 2000 A AC
FAYETTEVILLE 28302 919 323-6762

CITRIN, KERRY ALAN GS 029
105 PINEYWOOD ROAD A AC
P. O. BOX 1187
THOMASVILLE 27360 919 475-7148

CITRON, DAVID SANFORD IM /FP 060
P. O. BOX 32861 A * AC
CHARLOTTE 28232 704 338-3146

CLAPP, HUBERT LEE GP 011
BOX 365 A L
SWANNANOA 28778 704 686-3300

CLAPP, JAMES ROBERT IM /NEP 032
BOX 2991, DUMC A AC
DURHAM 27710 919 684-6674

CLARK, ALAN BOYD 034
BOWMAN GRAY, BOX 93 A S
WINSTON-SALEM 27103 919 724-4572

CLARK, CATHERINE LEAH FP 070
4716 CROATAN HIGHWAY AC
KITTY HAWK 27949 919 261-3848

CLARK, CHARLES EDWARD, III OTO 032
2609 N. DUKE ST. STE. 306 AC
DURHAM 27704 919 471-8700

CLARK, DOUGLAS HENDON GS 078
295 WEST 27TH STREET A AC
LUMBERTON 28358 919 738-8556

CLARK, DOUGLAS WINSTON PD 032
306 S. GREGSON ST. AC
DURHAM 27701 919 688-6349

CLARK, FRANKLIN ST. CLAIR GS /CDS 026
1790 METROMEDICAL DRIVE AC
FAYETTEVILLE 28304 919 323-2626

CLARK, JOHN BLUE, JR. EM /IM 060
3830 SILVERBELL DR. A AC
CHARLOTTE 28211 704 371-4160

CLARK, KENNETH JAMES, JR. GE /IM 011
49 MCDOWELL ST. A AC
ASHEVILLE 28801 704 258-3870

CLARK, LEE ANDREW, JR. OPH 098
WILSON CLINIC A AC
WILSON 27893 919 291-7001

CLARK, LOUIS PHILLIP, JR. HS /ORS 026
225 TIMBERLAKE DR. A AC
FAYETTEVILLE 28304 919 484-2171

CLARK, MARGARET ANNE IM 034
250 CHARLOIS BOULEVARD A AC
WINSTON-SALEM 27103 919 768-4730

CLARK, PRESTON SAMUEL END /IM 041
MERRITT MEDICAL PLAZA AC
1511 WESTOVER TERR., STE. 101
GREENSBORO 27408 919 373-0311

CLARK, RICHARD LEE DR 032
ROUTE #4, BOX 529 AC
CHAPEL HILL 27514 919 966-4400

CLARK, TERRENCE PETER CHP /P 011
445 BILTMORE AVE., STE. 304 AC
ASHEVILLE 28801 704 252-1421

CLARK, THEODORE RUST P/N 063
PO BOX 56 A AC
SOUTHERN PINES 28387 919 692-6471

CLARK, THOMAS BOYLE, III PTH 032
P. O. BOX 2951 A R
DURHAM 27705 919 684-3300

CLARK, VIVIAN E. GYN 032
PO BOX 3317 AC
CHAPEL HILL 27514 919 942-8571

CLARK, WILLIAM MACKEY R 060
647 LLEWELLYN PLACE A AC
CHARLOTTE 28207 704 371-4058

CLARKE, DONALD KEITH 074
1530-0 BRIDLE CIR. A S
GREENVILLE 27834 919 756-2072

CLARKE, LEN GORDON FP 079
1018 E. MEADOW RD. AC
EDEN 27288 919 623-6836

CLARKE, THOMAS LAWRENCE OBG 034
501 N. CLEVELAND AVENUE AC
WINSTON-SALEM 27101 919 722-3874

CLARKE, WILLIAM LOWE, JR FP 018
551 THIRD ST. NE L/RT
HICKORY 28601 704 322-1361

CLASSEN, CHARLES HENRY, JR. ORS 054
KINSTON CLINIC, NORTH, STE. F A AC
KINSTON 28501 919 522-2020

CLAXTON, CALVIN PORTER, JR. CDS /TS 011
257 MCDOWELL STREET A P AC
ASHEVILLE 28803 704 258-1121

CLAYTON, MELVIN LOUIS IM /FP 008
PO BOX 788 AC
AHOSKIE 27910 919 332-2993

CLEAVER, H. DEHAVEN GS /TS 064
100 MEDICAL ARTS MALL AC
ROCKY MOUNT 27801 919 443-9084

CLEGG, HERBERT WILLIAMS, II PD /ID 060
2711 RANDOLPH RD. STE. 501 * AC
CHARLOTTE 28207 704 374-1747

CLEMENT, JAMES EDWIN GYN 074
101 BETHESDA DRIVE A AC
GREENVILLE 27834 919 758-4181

CLEMENTS, DENNIS ALFRED, III PD /ID 032
119 WISTERIA DR. A R
CHAPEL HILL 27514 919 684-6610

CLEVELAND, JEFFREY ALLEN 034
2000 VIRGINIA ROAD S
WINSTON-SALEM 27104 919 723-8536

CLEVENGER, ALVA BEN PTH 016
107 BELLE AIR ST. A AS
BEAUFORT 28516 919 728-2048

CLINE, DAVID MARTIN EM 074
1211 RED BANKS RD. A * AC
GREENVILLE 27858 919 551-2954

CLINE, JAMES ALEXANDER GS /EM 064
WELLONGATE APTS. H-9 A RT
3430 SUNSET AVE.
ROCKY MOUNT 27804 919 443-6444

CLINE, JOHN WILLIAM OPH 032
1110 W. MAIN STREET A AC
DURHAM 27701 919 682-9341

CLINE, KATHLEEN ANN EM 074
1211 RED BANKS RD. A * AC
GREENVILLE 27858 919 551-4757

CLINE, ROBERT SEITZ FP 053
555 CARTHAGE STREET A P AC
SANFORD 27330 919 774-6518

CLINE, WAYNE ALLEN U 080
909 W. HENDERSON STREET AC
SALISBURY 28144 704 633-9441

CLINE, WAYNE ALLEN, JR. U 080
909 W. HENDERSON STREET A AC
SALISBURY 28144 704 633-9441

CLINE, WILLIAM TUCKER GS /CDS 092
3400 EXECUTIVE DRIVE A AC
RALEIGH 27609 919 876-2732

CLINTON, HOWARD LESLIE, JR. FP /EM 060
2001 VAIL AVE. AC
CHARLOTTE 28207 704 379-5917

CLIPPINGER, FRANK WARREN, JR. ORS 032
BOX 3935, DUMC A AC
DURHAM 27710 919 684-4229

CLONINGER, CHARLES EDGAR FP 018
RT. #2, BOX 14DC A L/RT
SHERRILLS FORD 28673 704 478-3155

CLONINGER, GILES LATHERN, JR. FP 077
115 MAIN STREET A AC
HAMLET 28345 919 582-1319

CLONINGER, KENNETH LEE, JR. NS 041
200 E. NORTHWOOD ST., STE. 504 A AC
GREENSBORO 27401 919 272-4578

CLONINGER, ROWELL CONNOR GS 023
309 WESTFIELD RD. L/RT
SHELBY 28150 704 487-8591

CLONINGER, TIMOTHY EARL TR 060
P. O. BOX 35291 A AC
CHARLOTTE 28235 704 338-2272

CLONTZ, TED HAMILTON FP 060
402 E. SUGARCREEK RD. AC
CHARLOTTE 28213 704 596-0822

CLOUD, WILLIAM GRAYDON GS /CDS 060
3535 RANDOLPH RD., STE. 201-W A AC
CHARLOTTE 28211 704 364-8100

CLOUTIER, MICHAEL R 040
1005 SHAMROCK RD. A * AC
HIGH POINT 27260 919 887-1926

CLUTTS, GEORGE ROBERT GS /TS 041
344 N. ELM STREET A AC
GREENSBORO 27401 919 275-9554

CLYDE, WALLACE ALEXANDER, JR. PD /ID 032
UNC SCHOOL OF MEDICINE 229-H AC
535 BURNETT-WOMACK CLI SC BLDG
CHAPEL HILL 27514 919 966-2331

COBB, GREGORY WAYNE OPH 067
264 MEMORIAL DRIVE AC
JACKSONVILLE 28540 919 353-1030

COBEY, WILLIAM GRAY PD 060
2024 RANDOLPH ROAD AC
CHARLOTTE 28207 704 375-4453

COBO, LIONEL MICHAEL OPH 032
BOX 3802, DUKE EYE CTR. A AC
DURHAM 27710 919 684-3799

COCHRAN, W. GERALD PS 080
410 MOCKSVILLE AVE. A * AC
SALISBURY 28144 704 633-8561

CODINGTON, JOHN BONNELL GS 065
1501 MEDICAL CENTER DRIVE AC
WILMINGTON 28401 919 763-6289

†CODNERE, JOHN THOMAS U 011
119 CHURCH STREET A L/RT
BLACK MOUNTAIN 28711 704 669-8721

COFFER, BERTRAM WATTS AN 092
P.O. BOX 18139 A AC
2800 BLUE RIDGE RD. STE. 204
RALEIGH 27619 919 781-7420

COFFEY, JAMES CECIL GP 080
8 PINE TREE ROAD L
SALISBURY 28144 704 633-3794

COGGESHALL, ALLAN BANCROFT GS 041
109 BEVERLY PLACE A L/RT
GREENSBORO 27403 919 299-7190

COGGINS, DAVID ALLEN
3233-G PARK RD. S
CHARLOTTE 28209 919 967-7511

COHAN, RICHARD HARRIS DR 032
9 RABBITS GLEN TERRACE A AC
DURHAM 27713 919 681-2711

COHEN, ARTHUR R. PTH 060
200 HAWTHORNE RD. A AC
PRESBYTERIAN HOSPITAL
CHARLOTTE 28211 704 371-4814

COHEN, KENNETH LEE OPH 032
UNC, DEPT. OF OPHTHALMOLOGY A AC
617 CLINICAL SCI. BLDG. 229-H
CHAPEL HILL 27514 919 966-5296

COHEN, MYRON SCOTT ID 032
UNC,547 BURNETT-WOMACK, 229-H AC
CHAPEL HILL 27514 919 966-2536

COHEN, SUSAN RAY 032
208 HOWELL ST. A S
CHAPEL HILL 27514 919 933-9444

COLAVITA, PAUL G. IM /CD 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4673

COLE, DEBRA WULFHORST 034
840 MAGNOLIA DR. A S
WINSTON-SALEM 27103 919 723-4036

COLE, JACK MARTIN 032
D-7 BERKSHIRE MANOR APTS. A S
CARRBORO 27510
COLE, ROGER DALE 034
840 MAGNOLIA ST. A S
WINSTON-SALEM 27103 919 724-0761
COLE, TOLLIE BOYCE OTO 032
BOX 3805, DUMC A AC
DURHAM 27710 919 684-6819
COLE, WARREN HENRY GS 011
8 W. KENSINGTON ROAD A RT
ASHEVILLE 28804 704 254-4475
COLEMAN, GORDON DONALD PD 065
1920 S. 16TH ST. A * AC
WILMINGTON 28401 919 762-3942
COLEMAN, JAMES BARR GS 007
604 W. MAIN STREET AC
WASHINGTON 27889 919 946-0181
COLEMAN, LESTER L., JR. FP 018
P. O. BOX 376 A AC
HILDEBRAN 28637 704 397-3522
COLEMAN, NANCY LOU 074
403 HILLTOP ST. A S
GREENVILLE 27858 919 752-3394
COLEMAN, PETER R. FP 032
207 CONNER DR., APT. 22 A R
CHAPEL HILL 27514 919 929-2067
COLEMAN, PHILIP DIVOLL GS /TS 007
625 E. 12TH ST. AC
WASHINGTON 27889 919 946-0181
COLEMAN, RALPH EDWARD NM 032
DUMC, DEPT. OF RADIOLOGY A AC
DURHAM 27710 919 681-5454
COLES, DEBRA LYNN FP 032
212 MCCAULEY ST. 1-B A S
CHAPEL HILL 27514 919 968-1909
COLETTA, HARRY MARIO, II FP 034
MAIN STREET, BOX 678 A
WALNUT COVE 27052 919 591-7205
COLEY, ELWOOD BROGDEN PD 032
3500 WESTGATE DR. STE.701 AC
DURHAM 27707 919 493-8608
COLEY, SILAS BODIE, JR. P/N 032
815 KENMORE ROAD A AC
CHAPEL HILL 27514 919 929-0326
COLLAWN, THOMAS HERBERT AN 060
1901 RANDOLPH RD. A AC
CHARLOTTE 28207 704 366-5311
COLLETT, JAMES ROUNTREE IM /CD 012
2203 S. STERLING ST., STE. 231 L/RT
MORGANTON 28655 704 437-0121
COLLIER, ALBERT MILFORD PD /ID 032
UNC, 535 CLINICAL SCIENCE BLDG A AC
CHAPEL HILL 27514 919 966-2331
COLLIGAN, JOSEPH FRANCIS P/CHP 067
192 VILLAGE DRIVE A * AC
JACKSONVILLE 28540 919 353-4165
COLLINGS, GILBEART H., JR. OM /PM 088
5533 NATOMA DR. A AC
FT. MYERS, FL 33907 704 885-2854
COLLINS, CHARLES DAVID GS 077
PO BOX 1385 A AC
ROCKINGHAM 28379 919 895-6301
COLLINS, DAVID DUTROW PUD /IM 034
2825 LYNDHURST AVE., STE. 101 A AC
WINSTON-SALEM 27103 919 765-0888
COLLINS, DAVID LEONARD GS 013
48 ARDSLEY AVE. NE A AC
CONCORD 28025 704 786-1108
COLLINS, FRANCIS FARRELL, JR. IM /PUD 063
205 PAGE RD. A AC
PINEHURST 28374 919 295-5511
COLLINS, WARREN JAMES GYN 023
105 GROVER STREET AC
SHELBY 28150 704 482-2486
COLLINS, WILLIAM STUART P 034
3969 QUILLING ROAD A AC
WINSTON-SALEM 27104 919 765-7350
COLLINSON, FRANK DR /NR 098
WILSON MEM. HOSP. A AC
X-RAY DEPT.
WILSON 27893 919 399-8112
COLLMAN, MITCHELL SCOTT CD /IM 092
PO BOX 17569 AC
RALEIGH 27619 919 783-5273

COLSON, JOSEPH SAMPSON FP 039
P. O. BOX 429 A RT
OXFORD 27565 919 693-2697
COLSON, LACY ALSTON IM /FP 092
23-G SUNNYBROOK ROAD A AC
RALEIGH 27610 919 821-5201
COLTON, SHARON ANN IM 055
PO BOX 1566 AC
1446 E. GASTON ST.
LINCOLNTON 28092 704 732-3348
COMBS, JOHN GILBERT, JR. R 065
2318 BLYTHE ROAD A P AC
WILMINGTON 28403 919 392-2610
COMBS, JOSEPH JOHN IM /PUD 092
335 SPRINGMOOR DR. A L/RT
RALEIGH 27615 919 848-7335
COMPEAU, PHILLIP E. C. IM 097
1710 PARKWOOD DR.,SOUTH P * AC
WILKESBORO 28697 919 667-1285
COMPTON, JOHN WALLACE R 096
2700 MEDICAL OFFICE PLACE A AC
GOLDSBORO 27530 919 734-1866
CONARD-CORKEY, ELIZABETH M. PH /GPM 060
519 HERMITAGE COURT A L
CHARLOTTE 28207 704 375-7831
CONARD, DAVID LLOYD IM 060
BLACK RIVER HEALTH CENTER A AC
ATKINSON 28421 919 283-7783
CONDIE, SCOTT DOUGLAS FP 023
1198 WYKE ROAD AC
SHELBY 28150 704 487-1148
†CONE, DONALD FRANK TR /DR 041
1604 ST. ANDREWS ROAD A AC
GREENSBORO 27408 919 379-4143
CONLEY, MARTIN JAMES, JR. CD /IM 065
1515 DOCTOR'S CIRCLE A AC
WILMINGTON 28401 919 763-5182
CONNELL, GEORGE FREDERICK AN 098
1105 BROOKSIDE DRIVE A AC
WILSON 27893 919 291-1700
CONNELLY, JERRY HUBBARD GP /GPM 041
212-C W. WENDOVER AVE. AC
GREENSBORO 27401 919 275-3828
CONNER, JOEL DEWITT GYN 036
471 COX ROAD A AC
GASTONIA 28052 704 865-0033
CONRAD, ELIZABETH PD 034
1862 RUNNYMEADE RD. A L/RT
WINSTON-SALEM 27104 919 723-1213
CONRAD, LARRY LEE EM 024
RR 1, BOX 129-G AC
HALLSBORO 28442 919 642-9735
CONSTIEN, DANIEL JOHN FP 007
AURORA MEDICAL CENTER A AC
P. O. BOX 40
AURORA 27806 919 322-4021
CONTOGIANNIS, MARY ANN 074
3529 SPICEBUSH TRAIL A * S
GREENSBORO 27410 919 756-6143
COOK, BRIAN 074
DOCTORS PARK APTS. U-1 A S
GREENVILLE 27834 919 758-3689
COOK, CHARLES ALVIN NEP /IM 092
1108 DRESSER COURT AC
RALEIGH 27609 919 872-8550
COOK, DAVID MARTIN 032
117 OAK ST. A S
CARRBORO 27510 919 968-9933
COOK, DAVID OWEN U 034
2652 TANTELON PL. A R
WINSTON-SALEM 27107 919 785-0393
COOK, DONALD EUGENE, JR. FP 090
808 CIRCLE DR. AC
UNION FAMILY PRACTICE, PA
MONROE 28110 704 289-5443
COOK, JAMES HOSMER D 011
281 MCDOWELL STREET A AC
ASHEVILLE 28803 704 252-5679
COOK, JOHN EDMUND AN 070
PO BOX 96 A P * AC
CAMDEN 27921 919 338-1542
COOK, JOSEPH WILLIAM TS /CDS 060
1960 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 373-1500
COOK, LELAND JAMES GS 018
420 N. CENTER ST. A AC
HICKORY 28601 704 327-9178

COOK, PERRY FLETCHER 032
2306 WILSON STREET A S
DURHAM 27705 919 286-2389
COOK, RUSSEL CLIFFORD PD 007
608 E. 12TH STREET * AC
WASHINGTON 27889 919 946-4134
COOK, WESLEY ALLEN, JR. NS 032
DUMC, DIV. OF NEURO-SURGERY A AC
DURHAM 27710 919 684-3582
COOK, WILLIAM EUGENE FP /PUD 026
115 S. CHURCHILL DRIVE A L/RT
FAYETTEVILLE 28303 919 484-5321
COOKE, JAMES HARBIN, JR. IM 013
130 LAKE CONCORD RD. A P AC
CONCORD 28025 704 782-3114
COOKE, RALPH MCBRIDE GP /GER 086
631 ELK SPUR ST. A L
ELKIN 28621 919 835-3525
COONRAD, RALPH WOODWARD ORS /HS 032
1828 HILLANDALE ROAD A AC
DURHAM 27705 919 286-1249
COOPER, ARMAH JAMALE P 041
604-B PASTEUR DR. A P AC
GREENSBORO 27403 919 855-7231
COOPER, EDWIN BRANAN, JR. ORS /PM 054
KINSTON CLINIC, NORTH, STE. F A P AC
KINSTON 28501 919 522-2020
COOPER, HERBERT A. PHO /CLP 032
UNC, DEPT. OF PEDIATRICS AC
BURNETTE-WOMACK BLDG. 229-H
CHAPEL HILL 27514 919 966-1178
COOPER, LYLE RAY IM 025
PO BOX 2685 AC
3 NEW BERN MEDICAL ARTS CTR.
NEW BERN 28560 919 638-4023
COOPER, MILES ROBERT ON /HEM 034
300 S. HAWTHORNE ROAD A * AC
WINSTON-SALEM 27103 919 748-4300
COOPER, RANDOLPH A. S. IM /HEM 032
#6 LANDOVER CT. A S
DURHAM 27713 919 489-5643
COOPER, WILLIAM CORNELIUS, JR. PD 064
124 FOY DRIVE AC
ROCKY MOUNT 27801 919 443-4031
COPELAND, DANA DERWARD PTH 092
10004 GRADY CIRCLE A AC
RALEIGH 27609 919 755-8260
COPELAND, DONALD LEE FP 060
ROUTE #1 A * AC
DAVIDSON 28036 704 892-3723
COPELAND, GARY BENJAMIN OPH 026
1629 OWEN DRIVE A AC
FAYETTEVILLE 28304 919 484-6141
COPELAND, GARY BRENT 034
2080 QUEEN ST. A S
WINSTON-SALEM 27103 919 724-4537
COPPEDGE, THOMAS OLIVER, JR. DR 060
1900 RANDOLPH RD. A AC
CHARLOTTE 28207 704 376-5597
COPPRIDGE, ALTON JAMES U 032
923 BROAD STREET A * AC
DURHAM 27705 919 286-1297
CORBETT, JOHN RICHARD R 010
924 HOWE ST. A AC
SOUTHPORT 28461 919 457-5271
CORCORAN, EDWIN EMMONS IM /GE 011
69 MCDOWELL STREET A L/RT
ASHEVILLE 28801 704 258-3870
CORDELL, A. ROBERT CDS /TS 034
BOWMAN GRAY SCH. OF MED. A AC
WINSTON-SALEM 27103 919 748-4672
CORLEY, MALCOLM OSBOURNE DR 050
ROUTE #1, BOX 391 AC
SYLVA 28779 704 586-6371
CORLEY, MARK R. OPH 032
2300 KATI COURT, STE. C A R
SHELTON, WVA 98584
CORLEY, ROBERT WILLIAM IM /CD 060
2700 COUNTRY CLUB LN. AC
CHARLOTTE 28205 704 331-9877
CORNWALL, THOMAS PAUL PYA /CHP 092
2501 NORTH ST., STE. 330 A AC
RALEIGH 27607 919 782-4954
CORPENING, ALBERT NEWTON FP 092
141 E. MAIN ST. * AC
PO BOX 158
YOUNGSVILLE 27596 919 556-2126

CORPENING, JOSEPH DURHAM PD 080
720 GROVE STREET AC
SALISBURY 28144 704 636-5576

CORRELL, EARL EUGENE GP 013
KANNAPOLIS MEDICAL CLINIC A P AC
KANNAPOLIS 28081 704 933-2101

CORT, CAROLYN RAY PD 061
P. O. BOX 188 * AC
BURNSVILLE 28714 704 682-6912

COSGROVE, KENNETH EDWARD IM /CD 045
510 7TH AVENUE, WEST A * AC
HENDERSONVILLE 28739 704 692-2231

COSTENBADER, WM. B., JR. OTO /HNS 011
131 MCDOWELL STREET A * AC
ASHEVILLE 28801 704 254-3517

COTTEN, AARON R. 074
108-B CEDAR COURT A S
GREENVILLE 27858 919 551-0571

COTTLE, RONALD WADE FP 024
118 E. WALTER ST. A AC
WHITEVILLE 28472 919 642-2706

COTTRELL, WILLIAM MILNES AN 013
758 WILLIAMSBURG DR. A * AC
CONCORD 28025 704 786-2111

COUGHLIN, PAUL WM. FITZHENRY U 040
624 QUAKER LANE, D-100 A * AC
HIGH POINT 27262 919 886-5151

COUNCIL, ALBERT BARBEE, JR. FP 079
701 S. VAN BUREN ROAD AC
EDEN 27288 919 623-1514

COUNCIL, JOHN CROMARTIE, JR. PD 060
1851 E. THIRD ST., STE. 103 AC
CHARLOTTE 28204 704 333-6659

COUNDOURIOTIS, ANDREW 032
1408 WASHINGTON ST. A S
DURHAM 27701 919 683-2785

COURIE, MAURICE NICKOLA GYN 092
3145 ESSEX CIRCLE AC
RALEIGH 27608 919 782-3698

COURTS, ANDREW JOHNSON CHP /P 041
1024 PROFESSIONAL VILLAGE A AC
GREENSBORO 27401 919 272-4262

COUTURE, MARK MOSCOE GS 036
902 COX RD. STE. G A AC
GASTONIA 28054 704 864-6011

COVEY, JONATHAN BALDRIDGE 032
P-2 OLD WELL APTS. A S
501 JONES FERRY RD.
CARRBORO 27510 919 942-5477

COVINGTON, CONNELL PD /GP 092
100 SUNNYBROOK RD. STE. 202 AC
RALEIGH 27610 919 821-3180

COVINGTON, DONALD SCOTT 032
136-A PUREFOY RD. A S
CHAPEL HILL 27514

COVINGTON, JOHN M.C. OPH 042
506 FRANKLIN STREET A L/RT
ROANOKE RAPIDS 27870 919 537-3644

COVINGTON, MARTIN CADE FP 053
212 W. MAIN STREET AC
SANFORD 27330 919 776-1412

COWAN, LEON KERR D 098
WILSON DERM. CLINIC, PA A * AC
702 BROAD ST.
WILSON 27893 919 291-5600

COWAN, ROBERT JENKINS NM /R 034
2869 FAIRMONT ROAD A AC
WINSTON-SALEM 27106 919 748-4932

COWARD, HOLLYJEAN 034
305 S. HAWTHORNE RD. APT. 8 A S
WINSTON-SALEM 27103 919 724-4554

COX, ALEXANDER MCNEIL GP 079
325 S. MARKET STREET A L/RT
MADISON 27025 919 548-2240

COX, JEFFREY NEAL 034
537 S. HAWTHORNE RD. APT. 9 A S
WINSTON-SALEM 27104 919 725-3571

COX, JOHN BALDWIN PUD /IM 032
4511 ROLLINGWOOD DR. A R
DURHAM 27713 919 493-4674

COX, PATRICIA MARY 032
3004 UNIVERSITY DR. A S
DURHAM 27707 919 489-0179

COX, RONNIE LEWIS /CD 040
624 QUAKER LANE AC
HIGH POINT 27262 919 885-2111

COX, RUSSELL JACKSON PD 036
902 COX RD. STE. C A AC
GASTONIA 28052 704 864-6522

COX, STANLEY CULLEN, III OTO 063
205 CREST ROAD A AC
SOUTHERN PINES N C 28387 919 295-6831

COX, STEPHEN HAMPTON FP /A 053
2208 BROOKWOOD TRAIL A AC
SANFORD 27330 919 258-6521

COX, WILLIAM FOSCUE IM /GPM 034
3740 KIRKLEES ROAD A L/RT
WINSTON-SALEM 27104 919 765-2626

COXE, JAMES SHERWOOD, III END /IM 092
3410 EXECUTIVE DRIVE A AC
RALEIGH 27609 919 876-7692

CRACKER, ANDREW ROBERT OBG 065
1809 GLEN MEADE ROAD A AC
WILMINGTON 28401 919 763-9833

CRADDOCK, LARRY WAYNE OBG 060
449 N. WENDOVER RD. A AC
CHARLOTTE 28211 704 376-0360

CRAIG, ISAAC ALAN PTH 054
LENOIR MEMORIAL HOSPITAL AC
KINSTON 28501 919 522-7141

CRAIG, ROBERT LAWRENCE P 011
16 COLONIAL PLACE A L/RT
ASHEVILLE 28804

CRAIN, BARBARA JEAN PTH 032
106 FOXRIDGE COURT A AC
CHAPEL HILL 27514 919 286-0411

CRAIN, JACK LEE GYN /END 060
PO BOX 32861 A AC
CHARLOTTE 28232 704 372-4600

CRANDALL, ROBERT GORDON P 060
1900 RANDOLPH RD. STE. 900 AC
CHARLOTTE 28207 704 333-7722

†CRANE, GEORGE LEVERING IM 032
1200 BROAD STREET L
DECEASED - 3-23-87
DURHAM 27705 919 286-4889

CRANE, GEORGE WILLIAM, JR. D 032
1200 BROAD STREET A AC
DURHAM 27705 919 286-7903

CRANE, LARRY MARTIN DR 032
24 CHANCERY PLACE A AC
DURHAM 27707 919 470-5289

CRANFORD, HAROLD DAVIS OPH 029
22 YOUNG DR. AC
PO BOX 747
LEXINGTON 27292 704 249-7544

CRANZ, OSCAR WILLIAM GS 054
1605 DUBOSE DR. A L/RT
PO BOX 1316
KINSTON 28501 919 523-3677

CRAVEN, DALLAS CLIFFORD, JR. GS 060
2104 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 377-3900

CRAVEN, FREDERICK THORNS GP 013
P. O. BOX 185 A L/RT
CONCORD 28025 704 782-2710

CRAVEN, NICHOLAS SCOTT FP /P 029
123 EASTSIDE DR. AC
LEXINGTON 27292 704 246-2253

CRAVEN, THOMAS, JR. ORS 065
2001 S. 17TH STREET A AC
WILMINGTON 28401 919 763-7344

CRAWFORD, JOHN LITTLEFIELD,III OPH 045
1701 OLD VILLAGE ROAD A * AC
HENDERSONVILLE 28739 704 693-1773

CRAWFORD, JOHN ROBERT, III OPH 080
310 N. MAIN STREET A P AC
SALISBURY 28144 704 633-7542

CRAWFORD, LARRY CLARKE GS /TS 001
316 N. GRAHAM-HOPEDALE RD. A AC
BURLINGTON 27215 919 227-3621

CRAWFORD, ROBERT CECIL, JR. OBG 040
P. O. BOX 5543 AC
HIGH POINT 27262 919 889-5422

CRAWFORD, ROBERT ORR, JR. OPH 033
101 CLINIC DR. A AC
TARBORO 27886 919 823-2105

CRAWLEY, GEORGE EDWARD, III 074
1113 HILLSIDE DR. A S
GREENVILLE 27834 919 830-0748

CREDLE, WILLIAM FRONTIS, JR. PUD /IM 065
1202 MEDICAL CENTER DRIVE A AC
WILMINGTON 28401 919 763-8251

CREECH, JOSEPH JAN IM 051
707 LASSITER ST. AC
SMITHFIELD 27577 919 934-0212

CREED, DON WENDELL GP 009
HOSPITAL DRIVE, BOX 1477 A AC
ELIZABETHTOWN 28337 919 862-8184

†CREED, GEORGE OTIS GP 083
P. O. BOX 809 A L
DECEASED - 5-17-87
LAURINBURG 28352 919 276-0421

CREGAN, GREGG EDWARD ORS /HS 034
BOX 25007 AC
1425 PLAZA DR.
WINSTON-SALEM 27114 919 768-1270

CREIGHTON, ROBERT KILGO OBG 065
6442 SHINNWOOD RD. AC
WILMINGTON 28403 919 256-6356

CREWS, DAVID ALLEN AN 041
3106 MADISON AVE. AC
GREENSBORO 27403 919 299-6343

CREWS, HARRY DENNISTON NEP /IM 011
10 MCDOWELL STREET A AC
ASHEVILLE 28801 704 258-8545

CRIGLER, NORRIS WOLF, JR. R 011
P. O. BOX 2959 * AC
ASHEVILLE 28801 704 254-4617

CRISP, SELLERS LUTHER ORS 074
6 MEDICAL PAVILION A AC
GREENVILLE 27834 919 752-4613

CRISSMAN, CLINTON SAMUEL FP 001
219 E. ELM STREET A L
GRAHAM 27253 919 226-2448

CRISSMAN, MARK ANDERS FP 001
219 E. ELM ST. A AC
GRAHAM 27253 919 226-2448

CRIST, TAKEY OBG 067
200 MEMORIAL DRIVE A AC
JACKSONVILLE 28540 919 353-2115

CRITTENDEN, SUSAN LAWRENCE IM 092
103 BAINES CT. AC
CARY 27511 919 467-6125

CROCKER, DANIEL LIND ON /HEM 064
100 NASH MEDICAL ARTS MALL * AC
ROCKY MOUNT 27801 919 443-9084

CROFT, JAMES MORRIS FP 012
P. O. DRAWER 849 A AC
MORGANTON 28655 704 437-9401

CROMARTIE, WILLIAM JAMES ID 032
804 FLOB 23L-H/DEPT.MIC.& IMMU A L
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514 919 966-5925

CRONLAND, MURPHY ALAN GP 055
P. O. BOX 488 AC
LINCOLNTON 28092 704 735-3048

CROOK, JOHN NEWMAN GS /CDS 013
56 LAKE CONCORD ROAD A AC
CONCORD 28025 704 786-1104

CROOM, ARTHUR BASCOM R 040
1311 ROBIN HOOD RD. A L/RT
HIGH POINT 27260 919 882-6057

CROOM, DORWYN WAYNE, II PTH 012
311 S. SHORE DR. AC
NEBO 28761

CROOM, ROBERT DEVANE, III GS 032
NCMH, DEPT. OF SURGERY A AC
CHAPEL HILL 27514 919 966-4416

CROOM, ROBERT DEVANE, JR. GP 078
501 MCCASKILL AVE. A L/RT
MAXTON 28364 919 844-3160

CROSBY, EDWARD BROWN ORS /HS 011
PO BOX 1980 A P AC
ASHEVILLE 28802 704 258-0847

CROSBY, FAITH BERNADETTE PD 029
244 FAIRVIEW DRIVE AC
LEXINGTON 27292 704 246-4333

CROSBY, IVAN KEITH 034
2827 LYNDHURST AVE., STE. 205A A P AC
WINSTON-SALEM 27103

CROSKERY, RICHARD WILLIAM IM 074
1705 W. 6TH ST., BLDG. E AC
GREENVILLE 27834 919 752-6101

CROSLAND, DAVID BAILEY OBG 013
1054 BURRAGE ROAD, N. E. A AC
CONCORD 28025 704 788-4151

CROSS, ALAN WHITTEMORE PD /GPM 032
CLINICAL SCIENCES BLDG. A AC
UNC, DEPT. OF PEDIATRICS
CHAPEL HILL 27514 919 962-1136

CROSS, ALMON RUFUS OBG 040
414 HILLCREST DRIVE A L/RT
HIGH POINT 27262 919 884-1236

CROSS, ALRED CHARLES, JR. OM /GP 041
AT&T TECHNOLOGIES, INC. A AC
P. O. BOX 25000
GREENSBORO 27420 919 279-7108

CROSS, ROBERT VANDERVOORT GYN 040
P. O. BOX 5128 A AC
HIGH POINT 27262 919 887-3011

CROSSLEY, JAMES JOHN OTO /A 041
100 E. NORTHWOOD ST. A AC
GREENSBORO 27401 919 274-5441

CROUCH, WALTER LEE PD 065
1902 BREWTON COURT A RT
WILMINGTON 28403 919 762-3619

CROUNSE, ROBERT GRIFFITH D 074
RT. #2, BOX 263-T A AC
BLOUNTS CREEK 27814 919 551-4629

CROUSE, JOHN ROBERT, III IM 034
BOWMAN GRAY SCH. OF MED. AC
300 S. HAWTHORNE ROAD
WINSTON-SALEM 27103 919 748-2674

CROUTCHER, DONALD LEWIS R/NM 082
P. O. BOX 1130 A AC
CLINTON 28328 919 592-6924

CROW, JOHN BUREN FP 023
591 CROW ROAD A AC
SHELBY 28150 704 487-7052

CROW, LAURA LOMAX 032
202 TALLYHO TRAIL A R
CHAPEL HILL 27514 919 966-4131

CROW, SAMUEL LESLIE IM /CD 011
418 DOCTOR'S BLDG. A L/RT
ASHEVILLE 28801 704 252-5633

CROWE, JAMES EARL DR 086
RADIOLOGY DEPT. A AC
NORTHERN HOSP. OF SURRY CO.
MOUNT AIRY 27030 919 789-9541

CROWE, JOHN ALBERT, JR GS 086
HOOTS MEM. HOSPITAL A AC
BOX 68
YADKINVILLE 27055 919 689-3111

CROWELL, CHARLES CARLOS, III CD /IM 040
624 QUAKER LN., STE. 103-C A P AC
HIGH POINT 27262 919 885-6168

CROWELL, GILES FRANKLIN N 034
201 EXECUTIVE PARK BLVD. A AC
WINSTON-SALEM 27103 919 768-6347

CROWELL, GORDON CAMERON IM 055
ROUTE #4, BOX 999 A AC
LINCOLNTON 28092 704 735-1430

CROYLE, TERRENCE ALAN OPH /EM 034
110 CAPISTRANO COURT A R
WINSTON-SALEM 27103 919 760-2646

CRUM, AMY ELIZABETH 034
305 S. HAWTHORNE RD. APT. #6 A S
WINSTON-SALEM 27103

CRUM, BRYAN GLENN 034
315 TAYLOR ST., APT. O A S
WINSTON-SALEM 27101 919 725-7944

CRUMLEY, CHARLES EDWIN IM 055
P. O. BOX 1309 AC
LINCOLNTON 28093 704 735-3081

CRUMMIE, ROBERT GWINN P 026
6245 CLIFFDALE ROAD A * AC
FAYETTEVILLE 28304 919 868-4816

CRUMPLER, JAMES FULTON PD 064
414 PEACHTREE STREET A L
ROCKY MOUNT 27804 919 442-1523

CRUMPLER, JAMES FULTON, JR. OTO 064
105-C FOY DRIVE AC
ROCKY MOUNT 27801 919 443-7878

CRUTCHER, KENNETH L. 032
1005 ALABAMA AVE. A R
DURHAM 27705 919 286-7574

CRUTCHFIELD, ANDREW JACKSON IM /CD 034
2240 CLOVERDALE AVE., STE. 93 A P * AC
WINSTON-SALEM 27103 919 725-5669

CRUTCHFIELD, WILLIAM MONROE OTO /PS 070
1134 N. ROAD STREET AC
ELIZABETH CITY 27909 919 335-2923

CRUTCHLEY, WILLIAM F., JR. GS 070
1134 N. ROAD STREET A P AC
ELIZABETH CITY 27909 919 338-3909

CRUZ, CORAZON SAMODIO R/GP 055
ROUTE #2, BOX 310 AC
LINCOLNTON 28092 704 435-4586

CRUZ, JULIA MARGARITA ON 034
300 S. HAWTHORNE RD. AC
WINSTON-SALEM 27103 919 748-2075

CUBBERLEY, CHARLES LAMB, JR. FP 098
P. O. BOX 95 A L
WILSON 27894 919 243-4638

CUENCA, NELIDA ALBA PD /PH 023
111 LARAN ROAD A AC
JACKSONVILLE 28540

CULLEN, PETER PATRICK IM 034
250 CHARLOIS BOULEVARD AC
WINSTON-SALEM 27103 919 768-4730

CULLEY, JAMES PAUL GS 062
506 WOOD ST. A AC
TROY 27371 919 572-3737

CULLOM, JOSEPH WILLIAM GS 040
624 QUAKER LN., STE. 200-C AC
PO BOX 5229
HIGH POINT 27262 919 887-3164

CULP, JOHN HARRY, JR. GYN 060
401 S. SHARON AMITY ROAD A AC
CHARLOTTE 28211 704 365-0110

CULPEPPER, FRED CARROLL, III PD 060
1851 E. THIRD ST., STE. 103 AC
CHARLOTTE 28204 704 333-6659

CULTON, JULIAN CLARK OPH 060
1600 E. THIRD STREET A P AC
CHARLOTTE 28204 704 372-3300

CULTON, YANCEY GOELET, JR. GYN 032
2609 N. DUKE ST. STE. 503 A AC
DURHAM 27704 919 471-6832

CUMMINGS, CHARLES EMMETT D 011
281 MCDOWELL STREET A AC
ASHEVILLE 28803 704 252-5676

CUNANAN, ANNE REGINA 032
102 DUNEDIN CT. A S
CARY 27511 919 467-0307

CUNNINGHAM, EDWARD RAY GS /GP 087
P. O. BOX 760 A AC
BRYSON CITY 28713 704 488-2283

CUNNINGHAM, JOSEPH W., JR. 034
100 CAROLINA CIRCLE A S
WINSTON-SALEM 27104 919 725-7803

CUNNINGHAM, MARK ALAN AN 011
202 DOCTOR'S BLDG. A * AC
ASHEVILLE 28801 704 254-1969

CUNNINGHAM, PAUL RAY GOLDWYN GS 074
ECU, BRODY BLDG., ROOM 4S-10 A AC
GREENVILLE 27834 919 551-2620

CURNES, JOHN TAYLOR R 032
UNC DEPT. OF RADIOLOGY AC
CHAPEL HILL 27514 919 966-3084

CURRIE, DONALD PATRICK U 034
PO BOX 24369 A AC
WINSTON-SALEM 27114 919 768-0735

CURRIN, JAMES MITCHELL, JR. FP 083
515 LAUCHWOOD DRIVE A P AC
LAURINBURG 28352 919 276-1340

CURRIN, JOE BADGETT, JR. IM 092
500 N. ENNIS STREET A P * AC
FUQUAY-VARINA 27526 919 552-2275

CURRY, CLAYTON SMITH GYN 060
1309 PLAZA * L
CHARLOTTE 28205 704 376-5698

CURTIS, RICHARD FRANKLIN R/NM 014
PO BOX 659 A AC
LENOIR 28645 704 754-8421

CUTCHIN, JOSEPH HENRY, JR. GP 018
P. O. BOX 67 A AC
SHERRILLS FORD 28673 704 478-2431

CUTCHIN, LAWRENCE MCGILBRA IM /PD 033
RT. #3, BOX 325 A P * AC
TARBORO 27886 919 823-2105

CUTHRELL, WILLIAM VANCE OBG /NPM 067
300 S. HAWTHORNE RD. A AC
DIV. MATERNAL-FETAL MED/OBGYN
WINSTON-SALEM 27103

CUTSON, TONI MICHELE FP /IM 032
#9 GORHAM PLACE A AC
DURHAM 27705

CUTTINO, JOHN TINDAL PTH 060
101 HIGHLAND FOREST DRIVE A L/RT
MATTHEWS 28105 704 847-4957

CUTTINO, JOHN TINDAL, JR. R 032
UNC, DEPT. OF RADIOLOGY AC
CHAPEL HILL 27514 919 966-3084

CYKERT, SAMUEL IM 001
711 HERMITAGE ROAD A AC
BURLINGTON 27215 919 226-9317

CYNN, STEVEN JAE FP /D 044
102 HOSPITAL DRIVE AC
CLYDE 28721 704 452-0611

CZERMAK, CHARLES LOUIS, JR. DR 095
P. O. BOX 1781 AC
BOONE 28607 704 264-6984

D'ERCOLE, AUGUSTINE JOSEPH PDE /NPM 032
BURNETT-WOMACK BLDG. 229-H AC
UNC, DEPT. OF PEDIATRICS
CHAPEL HILL 27514 919 966-4435

DABBS, DAVID JOSEPH PTH 074
BRODY 1F79, ECU SCH. OF MED. A AC
GREENVILLE 27834 919 551-4495

DACUS, ROBERT MABRY, III OBG 029
1302 LEXINGTON AVENUE A P AC
THOMASVILLE 27360 919 475-6139

DAGENHART, TIMOTHY LEE 074
322 SPRINGHILL RD. A S
GREENVILLE 27834 919 830-1242

DAHNERS, LAURENCE E. ORS 032
UNC, ORTHOPAEDIC SURGERY A AC
237 BURNETT-WOMACK BLDG.229H
CHAPEL HILL 27514 919 966-2039

DALE, FREDERICK PAYNE GS 054
P. O. BOX 1316 A RT
KINSTON 28501 919 522-1626

DALE, GROVER CLEVELAND GP 096
3293 RANDY ROAD A L
LANCASTER, PA 17601 717 898-8033

DALEY, JOHN GILBERT OBG /END 065
2143 ECHO LANE AC
WILMINGTON 28403 919 343-0161

DALEY, MICHAEL BERNARD IM 062
423 WOOD STREET AC
TROY 27371 919 572-3779

DALLDORF, FREDERIC GILBERT PTH 032
308 WOODHAVEN RD. * AC
CHAPEL HILL 27514 919 966-4541

DALTON, BENNIE BOOKER GP 076
606 WAYNICK, BOX 8101 A L/RT
WRIGHTSVILLE BEACH 28480 919 256-5956

DALTON, CLAUDETTE ELLIS HARLOE AN 060
3205 GLEN TERRACE A AC
CHARLOTTE 28211 704 364-6228

DALTON, HORACE MILTON OPH 054
KINSTON CLINIC, NORTH A L/RT
KINSTON 28501 919 522-1611

DALTON, JAMES D., JR. 032
311 S. LASALLE ST. APT. 5-E A S
DURHAM 27705 919 286-9753

DALY, JAMES KEARNEY DR /P 054
2711 WESTBROOKE DR. * AC
KINSTON 28501 919 522-3443

DALY, JOHN T. PTH /FOP 032
P. O. BOX 15337 A AC
DURHAM 27704 919 477-6742

DALY, LIAM N. P 026
1262 OLIVER ST. A AC
FAYETTEVILLE 28304 919 484-5151

DALY, MICHAEL JAMES GS /TRS 051
706 WILKINS STREET AC
P. O. BOX 87
SMITHFIELD 27577 919 934-5189

DAMBECK, ALLYN BENARD EM 082
312 FOX LAKE DRIVE A AC
CLINTON 28328 919 592-8511

DAMERON, THOMAS BARKER, JR. ORS 092
P. O. BOX 10707 A * AC
RALEIGH 27605 919 781-5600

DANFORD, JERRY LEE GYN 032
1830 HILLANDALE ROAD A AC
DURHAM 27705 919 383-5531

DANIEL, CROWELL TURNER, JR. OBG 026
1641 OWEN DRIVE A AC
FAYETTEVILLE 28304 919 484-6474

DANIEL, JOHN THOMAS, JR. GS 032
415 DUNSTAN STREET A P * AC
DURHAM 27707 919 682-7378

DANIEL, LOUIE SAMUEL FP 039
124 PINE CONE DRIVE A L/RT
OXFORD 27565 919 693-6735

DANIEL, LOUIS BROADDUS, JR. ORS 063
PINEHURST SURGICAL CLINIC A AC
PINEHURST 28374 919 295-1042

DANIEL, THOMAS BRANTLEY U 092
110 SELMA RD. A L/RT
PO BOX 845
WENDELL 27591 919 365-5550

DANIEL, THOMAS MANNING PD 051
501 SELMA RD. A P AC
PO BOX 568
SMITHFIELD 27577 919 934-7123

DANIEL, WALTER EUGENE AN 092
312 BUNCOMBE STREET A AC
RALEIGH 27609 919 832-7988

DANIELS, CHARLES A. PTH 060
200 HAWTHORNE LANE A AC
CHARLOTTE 28233

DANIS, MARION IM 032
UNC DEPT. OF MEDICINE AC
5025-A OLD CLINIC BLDG.
CHAPEL HILL 27514 919 966-2276

DANOFF, JASCHA WOLSEY CHP /P 074
ECU, DEPT. OF PSYCHIATRY A AC
GREENVILLE 27858 919 551-2660

DARDEN, JAMES LEE, JR. FP 008
ACADEMY ST., MED. ARTS BLDG. AC
AHOSKIE 27910 919 332-3548

DARSIE, JAMES LEIGH OTO 014
MULBERRY MEDICAL PARK * AC
LENOIR 28645 704 754-2464

DASCOMB, HARRY EMERSON IM /ID 092
3000 NEW BERN AVENUE A * AC
RALEIGH 27610 919 755-8520

DASHER, GEORGE ALBERT U 060
1333 ROMANY ROAD A AC
CHARLOTTE 28204 704 372-5180

DAUGHERTY, HARRY KARRICK CDS /TS 060
1960 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 373-1500

DAUGHERTY, JANICE ELAINE FP 074
P. O. BOX 339 A AC
BETHEL 27812 919 551-4614

DAUGHTRIDGE, CLAY C., JR. IM /CD 063
P. O. BOX 519 A AC
205 PAGE ROAD
PINEHURST 28374 919 295-5511

DAUGHTRIDGE, TRUMAN GIFFIN R 008
706 WOODLAWN DRIVE A AC
AHOSKIE 27910 919 332-8121

DAVANT, CHARLES, III FP 095
P. O. BOX 8 A AC
BLOWING ROCK 28605 704 295-3116

DAVANT, CHARLES, JR. FP /OPH 095
P. O. BOX 8 A AC
BLOWING ROCK 28605 704 295-3116

DAVENPORT, JOHN EMMETT IM 060
3535 RANDOLPH RD. A AC
CHARLOTTE 28207 704 847-3380

DAVIDIAN, VARTAN AMBAR, JR. PS /GS 092
1112 DRESSER COURT A AC
RALEIGH 27609 919 872-2616

DAVIDSON, ANDREW OPH 025
802 MCCARTHY BLVD. A AC
NEW BERN 28560 919 633-4183

DAVIDSON, CHARLES STEPHEN EM /FP 070
ROUTE #1, BOX 158 AC
KILL DEVIL HILLS 27948 919 441-5698

DAVIDSON, LARRY STEVE 074
1183 MULBERRY LN, APT. 30-G A S
GREENVILLE 27858 919 752-7202

DAVIDSON, ROBERT CLABAUGH 032
BOX 2718, DUMC A S
DURHAM 27710 919 383-5047

DAVIS, ANDREW CALVIN OPH 012
335 E. PARKER RD. AC
MORGANTON 28655 704 433-6220

DAVIS, ARTHUR EMERSON, JR. PTH /A 092
1209 COWPER DRIVE AC
RALEIGH 27608 919 833-9839

DAVIS, COURTLAND HARWELL,JR. NS 034
BOWMAN GRAY SCH. OF MED. A AC
WINSTON-SALEM 27103 919 748-4083

DAVIS, DANIEL WHITAKER FP 004
402 MORVEN ROAD A AC
WADESBORO 28170 704 694-2129

DAVIS, DONALD FALES P/N 096
ROUTE #10, BOX 46 A AC
GOLDSBORO 27530 919 778-3973

DAVIS, DWIGHT GROOME, JR. GS /TS 092
5825 MAPLE RIDGE RD. A AC
RALEIGH 27609 919 876-3671

DAVIS, EDWARD LANGSTON IM /CD 034
2125 NEW WALKERTOWN ROAD AC
WINSTON-SALEM 27101 919 723-4281

DAVIS, GEORGE EDWARD PD 074
8 MEDICAL PAVILION A AC
GREENVILLE 27834 919 758-1750

DAVIS, GEORGE THOMAS OBG 076
230 FOUST STREET AC
ASHEBORO 27203 919 625-6128

DAVIS, JACK BEASON P 001
1946 MARTIN STREET A AC
BURLINGTON 27215 919 228-0581

DAVIS, JAMES EVANS GS /TS 032
2609 N. DUKE ST., STE. 402 A P * AC
DURHAM 27704 919 471-8439

DAVIS, JAMES HOWELL CDS /TS 092
2800 BLUE RIDGE BLVD., STE 306 A AC
RALEIGH 27607 919 782-7900

DAVIS, JAMES NORMAN N 032
V. A. MEDICAL CTR., NEUROLOGY * AC
DURHAM 27705 919 286-6956

DAVIS, JOHN D., JR. FP 095
P. O. BOX 8 A * AC
BLOWING ROCK 28605 704 295-3116

DAVIS, JOHN PRESTON IM 034
329 BANBURY ROAD A L/RT
WINSTON-SALEM 27104 919 768-5390

DAVIS, JOHN WOODROW FP 018
24 SECOND AVENUE, N. E. A AC
HICKORY 28601 704 328-2231

DAVIS, JUNIUS WEEKS, JR. PD /PH 025
201 ABNER NASH ROAD L/RT
NEW BERN 28560 919 633-4121

DAVIS, KEITH ALAN 032
102 RAINBOW DR. A S
CARRBORO 27510 919 968-1728

DAVIS, MICHAEL LEE IM 025
EASTERN CAROLINA INT.MED. A AC
P. O. BOX 68
POLLOCKSVILLE 28573 919 224-4591

DAVIS, NELSON PARKE, II GS /CDS 098
1700 S. TARBORO STREET A AC
WILSON 27893 919 291-1300

DAVIS, OWEN KIDDER OBG /END 034
BRIGHAM AND WOMENS HOSP. A R
75 FRANCIS ST.
BOSTON, MA 02115 617 732-6987

DAVIS, PHILIP BIBB GS 041
1125 GATEHOUSE RD. A L
HIGH POINT 27260 305 276-6779

DAVIS, PHILIP COLEMAN OBG 011
93 VICTORIA ROAD A AC
ASHEVILLE 28801 704 253-4821

DAVIS, ROBERT ALDEN GS 008
BERTIE MEMORIAL HOSPITAL A AC
WINDSOR 27983 919 794-4865

DAVIS, ROBERT LEE DR /NM 004
515 CAMDEN ROAD A P AC
WADESBORO 28170 704 694-3597

DAVIS, ROBERT NICHOLAS D 041
600 WALTER REED DRIVE * AC
GREENSBORO 27403 919 294-6555

DAVIS, RUFUS JACKSON GP 036
P. O. BOX 337 A AC
CRAMERTON 28032 704 825-8266

DAVIS, THOMAS R. OBG 060
7026 VALLEY HAVEN DR. A R
CHARLOTTE 28211 704 365-5144

DAVIS, TIMOTHY EUGENE GS /CRS 041
1317 N. ELM ST., STE. #5 A AC
GREENSBORO 27401 919 273-8691

DAVIS, WALTER ETCHELLS ON /HEM 032
1830 HILLANDALE ROAD A AC
DURHAM 27705 919 383-5531

DAVIS, WAYNE EDWARD U 034
PO BOX 24369 A AC
WINSTON-SALEM 27114 919 768-0735

DAVIS, WILLIAM HERSEY, JR. ADL /PD 034
301 MILLER STREET, SUITE 108 A AC
WINSTON-SALEM 27103 919 723-1686

DAWKINS, HOWARD GARRETT, JR. PS /GS 074
2577 STANTONSBURG ROAD A AC
GREENVILLE 27834 919 752-1406

DAWSON, ROBERT EDWARD OPH 032
512 SIMMONS STREET A AC
DURHAM 27701 919 682-7175

DAY, JAMES WILLIAM IM 034
2240 CLOVERDALE AVE. A AC
STE. 118, PROFESSIONAL BLDG.
WINSTON-SALEM 27103 919 722-7178

DAY, PHILIP MARK GP 023
198 LAKESIDE DR. A P AC
GROVER 28073 704 937-7905

DE ANGELIS, WASHINGTON JULIO FP /DIA 032
1001 S. HAMILTON ROAD AC
CHAPEL HILL 27514 919 968-4551

DE GUEHERY, LINDSEY ELLIOTT PUD 098
1700 S. TARBORO ST. A AC
WILSON 27893 919 291-1300

DE JUAN, EUGENE, JR. OPH 032
BOX 3802, DUKE EYE CENTER A AC
DURHAM 27710 919 684-5631

DE LA GARZA, CARLOS ARTURO FP 018
24 SECOND AVE., NE A AC
HICKORY 28601 704 328-2231

DE LIGIO, JAMES JOSEPH FP /HYP 070
KITTY HAWK MED. CTR. AC
KITTY HAWK 27949 919 261-3848

DE LUCA, PAMELA S. 034
1815 BRANTLEY ST. A S
WINSTON-SALEM 27103 919 723-9695

DE-LA-TORRE, ERNESTO ESTEBAN NS 034
3080 TRENWEST DRIVE A AC
WINSTON-SALEM 27103 919 765-3750

DE-VARONA, JOSE MIGUEL FP /P 067
215 MEMORIAL DRIVE AC
JACKSONVILLE 28540 919 353-5118

DEALY, DARILYN HEDDEN ID 011
445 BILTMORE CTR., STE. 404 AC
ASHEVILLE 28801 704 258-9635

DEAN, CLAYTON CLEWIS GS /CDS 095
207 LONGVUE DRIVE A AC
BOONE 28607 704 264-7650

DEAN, JOHN NEWELL IM 011
147 ASHLAND AVENUE A AC
ASHEVILLE 28801 704 258-1188

DEAN, RICHARD HENRY GS 034
300 S. HAWTHORNE RD. A AC
DEPT. OF SURGERY
WINSTON-SALEM 27103 919 748-4443

DEAN, ROBERT JAMES AN 054
2321 STALLINGS DR. A AC
KINSTON 28501 919 522-3177

DEANG, CEDRIC RODRIGUEZ GS 029
1300 LEXINGTON AVENUE A AC
THOMASVILLE 27360 919 475-2376

DEANS, WILLIAM RONALD, JR. N 064
2412 PROFESSIONAL DR. A AC
ROCKY MOUNT 27804 919 443-0041

DEAS, DAVID JOHN P 036
238-3 WILMOT DR., BLDG. 239 A P AC
GASTONIA 28054 704 867-2338

DEATON, HUGO L. GS /TS 018
420 N. CENTER STREET A AC
HICKORY 28601 704 327-9178

DEATON, PHILIP CARL NS 041
200 E. NORTHWOOD ST. STE. 204 A * AC
GREENSBORO 27401 919 379-0077

DEATON, PLEASANT PAUL GS 012
PO BOX 700 A AC
VALDESE 28690 704 874-0555

DEBECK, THOMAS WADE 41
1018 N. ELM ST. A AC
GREENSBORO 27401 919 272-8488

DEBNAM, GEORGE CLYDE GP /OBS 092
524 S. BLOUNT STREET A AC
RALEIGH 27601 919 832-1667

DEBOGORSKI, JOZEFA PM 074
PO BOX 6028 A AC
GREENVILLE 27834 919 551-4440

DECLERCK, PAUL ALBERT FP 054
2503 N. QUEEN STREET A AC
KINSTON 28501 919 522-3717

DEEKENS, STEWART ANDREWS, JR. FP 012
350 E. PARKER ROAD A AC
MORGANTON 28655 704 437-9401

DEEPE, ROBERT GS 042
PO BOX 458 AC
ROANOKE RAPIDS 27870 919 535-1585

DEERING, TIMOTHY BRADFORD GE /IM 011
30 CHOCTAW STREET A P AC
ASHEVILLE 28801 704 254-0881

DEES, JOHN ESSARY U 032
DUKE HOSPITAL A L/RT
DURHAM 27710 919 684-6928

DEES, JOHN TYLER FP /PH 065
COURTHOUSE AVE., PO BOX 815 A P * AC
BURGAW 28425 919 259-2161

DEES, SUSAN COONS PDA /PD 032
BOX 2913, DUMC A L
DURHAM 27710 919 684-2933

DEFRANZO, ANTHONY JOHN PS 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4500

DEGRAW, MARTIN CRAWFORD FP 025
810 KENNEDY AVE. A AC
NEW BERN 28560 919 633-1685

DEHOFF, PHILIP WILLIAM OBG 060
3535 RANDOLPH RD., STE. 105 A AC
CHARLOTTE 28211 704 365-0470

DEL TORO, MIGUEL HIGINIO DR 029
102 LINDEN LANE AC
LEXINGTON 27292 704 249-1515

DELEON, ROSEMARY ESPINO AN 092
2903 ADRIAN COURT AC
RALEIGH 27604 919 829-9550

DELLASEGA, MARK IM /GE 074
1705 W. SIXTH ST. A * AC
GREENVILLE 27834 919 752-6101

DELLINGER, CLYDE JAMES FP 012
P. O. BOX 8 A AC
DREXEL 28619 704 437-3634

DELTA, BASIL GEORGE GPM /PD 060
249 BILLINGSLEY ROAD AC
CHARLOTTE 28211 704 375-1885

DEMARIA, WILLIAM JOHN PD 092
PO BOX 2291 A * AC
DURHAM 27702 919 493-8256

DEMAS, RONALD CHARLES N/PM 060
2115 EAST 7TH ST.,STE. 101 A AC
CHARLOTTE 28204 704 372-3714

DEMASON, MARC GS 079
515 THOMPSON ST., STE. B A AC
EDEN 27288 919 623-9118

DENHAM, JOHN WILLIAM IM /FP 034
3415 THORESBY CT. AC
WINSTON-SALEM 27104 919 773-3783

DENNIS, KENNETH MICHAEL PD /ADL 044
1 SMATHERS STREET * AC
CLYDE 28721 704 627-9226

DENNIS, PATRICK MICHAEL OPH 054
DOWN EAST EYE CENTER, PA AC
2104 N. HERRITAGE ST.
KINSTON 28501 919 523-9599

DENNIS, RONALD GREENE OTO 060
3535 RANDOLPH ROAD A * AC
CHARLOTTE 28211 704 365-0711

DENNISON, HERBERT EUGENE OBG 045
630 FIFTH AVENUE, WEST AC
HENDERSONVILLE 28739 704 692-2258

DENNY, FLOYD WOLFE, JR. PD /ID 032
BOX 3, WING D, 208-H AC
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514 919 962-1136

DENNY, KEVIN M. P 060
1900 RANDOLPH RD. AC
CHARLOTTE 28207 704 333-7722

DENUNA, VICENTE BOGADOR GS /ABS 059
28 N. LOGAN STREET AC
MARION 28752 704 652-5797

DENUNZIO, NEIL L. IM 070
PO BOX 9 AC
WINFALL 27985 919 426-9172

DEPERCZEL, JOHN LESLIE ORS /GP 018
521 11TH AVE. CIRCLE NW A P AC
HICKORY 28601 704 324-2800

DERBYSHIRE, JOHN STUART IM 064
1400 BROOKWOOD DR. AC
PO BOX 7828
ROCKY MOUNT 27804 919 977-6746

DERRICK, WILLIAM ADAM, JR. ADL /GP 095
ASU HEALTH SERVICES AC
BOONE 28608 704 262-3100

DESKINS, WILLIAM CYPHERS FP 090
1420 E. FRANKLIN ST. A AC
MONROE 28110 704 289-8427

DESROCHERS, DAVID ALAN R 007
608 E. 12TH STREET A * AC
WASHINGTON 27889 919 946-2137

DESTEFANO, NEIL MICHAEL GS /GYN 079
PO BOX 780 * AC
REIDSVILLE 27320 919 349-8484

DETERDING, JAMES LEROY NEP /IM 041
208 W. WENDOVER AVENUE A AC
GREENSBORO 27401 919 379-9708

DETWEILER, DONALD GENE DR 092
2017 LANDINGS WAY A AC
RALEIGH 27615 919 783-3023

DEVILLA, AMADA RUIZ OPH 042
115 LONG CIRCLE A P AC
ROANOKE RAPIDS 27870 919 537-8193

DEVINE, GERARD MICHAEL IM 078
395 WEST 27TH STREET A AC
LUMBERTON 28358 919 739-7551

DEVINE, LEIBERT EARL FP 021
P. O. BOX 298 AC
EDENTON 27932 919 482-7774

DEVIRGILIIS, JUAN CARLOS FP 074
PO BOX 709 A AC
FARMVILLE 27828 919 753-7181

DEWALD, JONATHON GLEN IM 098
1700 S. TARBORO ST. A AC
WILSON 27893 919 291-1300

DEWALT, JOSEPH LEO IM /ORS 032
IRIS LANE AC
CHAPEL HILL 27514 919 966-2281

DEWAN, DAVID MICHAEL AN 034
3333 SILAS CREEK PKWY. A AC
FORSYTH MEM. HOSPITAL
WINSTON-SALEM 27103 919 760-5259

†DEWAR, WILLIAM BANKS IM 092
C/O J. HOPKINS A L
DECEASED-5-3-87
ROCKY MOUNT, VA 24151 703 483-9468

DEWITT, DONALD EVERETT FP 074
321 PINEWOOD DR. A AC
GREENVILLE 27834 919 757-4614

DEYTON, JOHN WESLEY, JR. OBG 067
124 MEMORIAL DRIVE A P AC
JACKSONVILLE 28540 919 353-7741

DEYTON, ROBERT GUY, JR. OBG 074
101 BETHESDA DRIVE A AC
GREENVILLE 27834 919 758-4181

DHATT, MALKIAT SINGH CD /IM 076
P. O. BOX 2028 A AC
ASHEBORO 27203 919 629-4176

DHILLON, TEJPAL SINGH ORS 051
P. O. BOX 1688 AC
SMITHFIELD 27577 919 934-3091

DIAB, ALBERT JOSEPH IM 092
3801 COMPUTER DRIVE AC
RALEIGH 27609 919 787-5217

DIAMOND, JOHN MICHAEL P/CHP 074
ECU, DEPT. OF PSYCHIATRY A AC
GREENVILLE 27858 919 551-2673

DIAZ-BUXO, JOSE ANTONIO NEP /IM 060
928 BAXTER STREET A AC
CHARLOTTE 28204 704 374-1321

DICKERSON, ANDREW JACKSON GS /TS 044
1600 N. MAIN STREET A * AC
WAYNESVILLE 28786 704 452-5101

DICKERSON, LEON ARCHIBALD, JR. ORS 060
2600 E. 7TH ST. A AC
CHARLOTTE 28204 704 372-9820

DICKEY, RICHARD ALLEN END /IM 049
316 GLENEAGLES EAST AC
STATESVILLE 28677 704 878-2011

DICKIE, JAMES WILLIAM GS 065
448 WAYNE DRIVE A L/RT
WILMINGTON 28403 919 762-8429

DICKINSON, MICHAEL WRIGHT GS /CDS 018
420 N. CENTER STREET A AC
HICKORY 28601 704 327-9178

DICKSON, BRICE TEMPELTON, JR. IM 036
837 ATHENIAN DR. A L/RT
GASTONIA 28052 704 867-7656

DICKSON, F. KEELS OTO /A 060
485 N. WENDOVER RD. A P AC
CHARLOTTE 28211 704 366-7921

DICKSON, ROBERT TRULOCK GE 054
806 WESTMINISTER LANE AC
KINSTON 28501 919 522-3072

DICKSTEIN, SHERRY ANNE OBG 041
1305 W. WENDOVER AVE. A AC
GREENSBORO 27408 919 275-5391

DIECKMANN, MERWIN R. FP 074
P. O. BOX 1846 A AC
GREENVILLE 27834 919 756-4611

DIETRICK, RONALD BURTON GS /TS 031
KENANSVILLE SURGICAL CLINIC AC
BOX 845
KENANSVILLE 28349 919 296-0545

DIGBY, DONALD JOE OPH 041
3312 BATTLEGROUND AVE. A AC
GREENSBORO 27410 919 282-5000

DIGBY, RONALD WYMAN CD /IM 036
1896 REMOUNT ROAD A AC
GASTONIA 28054 704 867-0735

DILL, DAVID LEE DR 014
203 CEDAR ROCK EST. DR. A AC
LENOIR 28645 704 754-2283

DILL, FRANKLIN GEORGE OBG 067
124 MEMORIAL DRIVE A P AC
JACKSONVILLE 28540 919 353-7741

DILLARD, MARGARET BLEICK IM 074
104 LISA LANE A R
GREENVILLE 27858 919 551-4100

DILLARD, SAM BOOKER D 060
1900 RANDOLPH ROAD, STE. 312 A * AC
CHARLOTTE 28207 704 333-8811

DILLARD, THOMAS ARTHUR IM /PUD 074
ECU SCHOOL OF MED. A AC
DEPT. OF MEDICINE
GREENVILLE 27834 919 551-4653

DILLINGHAM, WILLIAM STEPHEN P 060
479 N. WENDOVER RD. A P AC
CHARLOTTE 28211 704 365-3185

DILLON, DANIEL CHRISTIAN IM /GE 018
11 13TH AVENUE, N. E. A P AC
HICKORY 28601 704 322-1068

DILWORTH, JOHN HERBERT ORS /HS 041
1505 WESTOVER TERR. A AC
GREENSBORO 27408 919 275-0927

DIMEO, MICHAEL JOSEPH PUD /IM 001
1604 MEMORIAL DR. A P AC
BURLINGTON 27215 919 226-7300

DIMITRIOUS, ROBIN AN 024
P. O. BOX 364 A AC
WHITEVILLE 28472 919 642-8011

DIMMIG, THOMAS A. ORS 032
2609 N. DUKE ST. A * AC
DURHAM 27704 919 471-8431

DINAPOLI, RAPHAEL JOSEPH, JR. PH /AM 032
1985 UMSTEAD DR. A P * AC
DIV. OF MEDICAL ASSISTANCE
RALEIGH 27603 919 733-2393

DINEEN, JAMES ROBERT ORS 065
1616 MEDICAL CENTER DRIVE A AC
WILMINGTON 28401 919 762-2655

DINGFELDER, JAMES RAY OBG 032
700 EASTOWNE DR., STE. 200 A * AC
CHAPEL HILL 27514 919 942-4100

DINOME, ANTHONY JOSEPH, JR. 032
27 12TH AVE. A S
SEA CLIFF, NY 11579

DIOQUINO, RENATO MERCADO IM /PUD 059
240 S. MAIN STREET AC
MARION 28752 704 652-2214

DIROCCO, JUDITH GERALYN 034
1725-B FRANCISCAN TERR. A S
WINSTON-SALEM 27107 919 788-4844

DIRR, LOUISE YOUNGER N 034
532 POLO ROAD A S
WINSTON-SALEM 27106

DIXON, DIRK STANCILL, SR. R 029
P. O. BOX 1532 AC
LEXINGTON 27292 919 249-1515

DIXON, JOHN ELLIOTT FP 074
P. O. BOX 427 A
AYDEN 28513 919 746-3116

DIXON, ROBERT ROSS PD 018
FIRST PLAZA -- BOX 700 AC
1985 TATE BOULEVARD, S.E.
HICKORY 28601 704 322-2550

DIXON, SEWELL HINTON, JR. CDS /TS 041
1317 N. ELM ST., STE. 1 A AC
GREENSBORO 27401 919 373-8245

DIXSON, GEORGE RANDALL DR 044
90 HOSPITAL DR. AC
CLYDE 28721 704 452-2260

DOANE, JOHN HORTON, JR. IM /CD 034
250 CHARLOIS BOULEVARD A AC
WINSTON-SALEM 27103 919 768-4730

DOBSON, LOLO ALLEN, JR. FP 013
115 COOK ST. A AC
PO BOX 1058
MT. PLEASANT 28124 704 436-6521

DOBYNS, RICHARD JOSEPH 034
2517 OLD SALISBURY RD. A S
WINSTON-SALEM 27107 919 785-2274

DODD, PATRICIA GS /GYN 011
325 VANDERBILT RD. L/RT
ASHEVILLE 28803 704 254-3587

DOFFERMYRE, LUTHER RANDOLPH FP 043
P. O. BOX 1011 A L
DUNN 28334 919 892-4151

DOLAN, DANIEL LYNN IM /CD 011
9 BAIRD MOUNTAIN ROAD WEST A AC
ASHEVILLE 28804 704 658-2677

DOMBY, WILLIAM ROGER PUD /IM 011
30 CHOCTAW STREET A AC
ASHEVILLE 28801 704 255-7733

DONAHUE, DONALD C. R 011
STE. 103, THE DOCTORS BLDG. AC
ASHEVILLE 28801 704 255-4131

DONAHUE, MICHAEL JOSEPH D 065
1505 MEDICAL CENTER DRIVE A P AC
WILMINGTON 28401 919 763-1555

DONALD, WILLIAM BLANTON, JR. OPH 040
624 QUAKER LANE, SUITE 202-C A * AC
HIGH POINT 27262 919 884-2242

DONAYRE, LUIS ERNESTO GS /TS 024
144 JEFFERSON STREET A AC
WHITEVILLE 28472 919 642-3136

DONGRE, SHRIKUMAR SHRIPAD AN 034
1216 BROOK ACRES TRAIL A AC
CLEMMONS 27012 919 768-5441

DONNELLY, GRANT LESTER PUD 080
240 WINDSOR DRIVE A RT
SALISBURY 28144 704 637-0905

DONOHUE, JAMES FRANCIS PUD /IM 032
UNC, 724 BURNETT-WOMACK AC
CHAPEL HILL 27514 919 966-2531

DOOLITTLE, ROBERT PRINCE ADL /IM 041
UNC-G STUDENT HEALTH CENTER AC
GREENSBORO 27412 919 334-5340

DORENBUSCH, ALFRED ADOLPH OTO 060
2734 HAMPTON AVENUE A L/RT
CHARLOTTE 28207 704 334-0498

DORFMAN, MARGARET JEANNE P 092
DOROTHEA DIX HOSP.-PSY. AC
RALEIGH 27611 919 733-9917

DORMAN, BRUCE HUGH ORS 065
2001 S. 17TH STREET A AC
WILMINGTON 28401 919 763-7344

DORNBLAZER, GEORGE HENRY P 060
6511 CROSSFIELD LN. AC
CHARLOTTE 28226 704 377-4243

DORSETT, FLETCHER I. IM 034
2020 HOLLYROOD STREET A L/RT
WINSTON-SALEM 27107 919 723-5732

DORSETT, JOHN DEWEY, JR. IM /CD 060
1851 E. THIRD STREET A * AC
CHARLOTTE 28204 704 333-4175

DORSEY, DEANNA LYNN 034
312 GROVE PARK AVE. #2 A S
WINSTON-SALEM 27103 919 723-3042

DORTON, PHILLIP KEVIN OBG 029
1302 LEXINGTON AVE. A AC
THOMASVILLE 27360 919 475-6139

DOSS, GEORGE WESTON P 011
HIGHLAND HOSPITAL A AC
P. O. BOX 1101
ASHEVILLE 28802 704 254-3201

DOTTERER, ELIZABETH JAMES IM /GYN 053
118 HAWKINS AVENUE A L
SANFORD 27330 919 776-5723

DOTTERER, JOHN EMANUEL GER /FP 053
118 HAWKINS AVENUE A L
SANFORD 27330 919 776-5723

DOUGLAS, ARTHUR EUGENE, JR. P 078
209 W. 27TH STREET AC
LUMBERTON 28358 919 738-8230

DOUGLAS, BENJAMIN OTO /HNS 050
103 ASHEVILLE HIGHWAY A AC
SYLVA 28779 704 586-7474

DOUGLAS, EDGAR SMITH, JR. OBG 074
101 BETHESDA DRIVE A AC
GREENVILLE 27834 919 758-4181

DOUGLAS, JOHN MUNROE IM 060
4107 POMFRET LN. A L/RT
CHARLOTTE 28211 704 333-0125

DOUGLAS, MICHAEL ERIN AN 095
301 BIRCH STREET A P * AC
BOONE 28607 704 264-4691

DOUGLAS, W. LADELL PD /ADL 032
2609 CARVER STREET * AC
DURHAM 27704 919 471-4484

DOUGLASS, DONALD PERRY GS /TS 040
401 WESTWOOD AVENUE A P AC
HIGH POINT 27262 919 887-3164

DOVER, CARL THOMAS, JR. PD 007
307 S. MCCASKEY RD. A AC
WILLIAMSTON 27892 919 792-8101

DOWDESWELL, ROBERT HORTON PTH 045
735 SIXTH AVE., WEST A AC
HENDERSONVILLE 28739 704 697-6781

DOWNEY, LUCY MCMASTER BIDDLE PD 034
2220 QUEENSWOOD DRIVE A R
WINSTON-SALEM 27106 919 760-2151

DOWNS, POSEY EDGAR, JR. OBG 060
1928 RANDOLPH ROAD AC
CHARLOTTE 28207 704 376-1612

DOWNS, THOMAS WM. 032
3-C ESTEA PARK A S
CARRBORO 27510 919 942-2780

DOYLE, OWEN WILLIAM DR 041
1013 PROFESSIONAL VILLAGE A P AC
GREENSBORO 27401 919 275-6481

DOYLE, RAYMOND THOMAS IM /HEM 064
1400 BROOKWOOD DR. AC
PO BOX 7828
ROCKY MOUNT 27804 919 977-6746

DRAFFIN, RICHARD MARION PTH 032
3643 N. ROXBORO STREET A AC
DURHAM 27704 919 470-5251

DRAKE, ALMOND JERKINS, III IM 000
4963 CAMINO DAVID A R
BONITA, CA 92002 619 233-2934

DRAKE, DAVID EWING FP 026
P. O. BOX 3654 AC
FAYETTEVILLE 28305 919 485-3078

DRAKE, SAMUEL THOMAS GE /IM 036
603 COX ROAD * AC
GASTONIA 28054 704 867-3585

DRAKE, WILTON RODWELL, JR. FP 091
VANCE MEDICAL ARTS CENTER A AC
HENDERSON 27536 919 492-3152

DRAY, GREGORY JOSEPH HS /ORS 011
111 VICTORIA AT OAKLAND RD. A AC
ASHEVILLE 28801 704 252-7331

DREILING, DALE T. FP 041
522 N. ELAM AVENUE AC
GREENSBORO 27403 919 852-3800

DRESSER, LEE POTTER 034
1631-C NORTHWEST BLVD. A S
WINSTON-SALEM 27104 919 722-3712

DREW, JOHN EDWIN FP 033
P. O. BOX 337 A AC
MACCLESFIELD 27852 919 827-5231

DRIVER, ALBERT GARDNER, JR. PUD /IM 074
ECU, DEPT. OF MEDICINE A AC
GREENVILLE 27834 919 551-4653

DROEGEMUELLER, WILLIAM GYN 032
908 WOODBINE DR. AC
CHAPEL HILL 27514 919 966-5281

DROSSMAN, DOUGLAS ARNOLD GE /PYM 032
UNC, 324 CLINICAL SCIENCE BLDG AC
CHAPEL HILL 27514 919 966-2511

DRUCKER, JOAN LIVERSIDGE ID 032
3909 HOPE VALLEY RD. AC
DURHAM 27707 919 684-2660

DRUMMOND, JACK NEWTON FP 096
GRANTHAM MEDICAL CLINIC AC
RT. 1, BOX 100-C
GOLDSBORO 27530 919 689-2222

DUBOSE, JOHN MCNEELY TS /GS 054
P. O. BOX 1316 A AC
KINSTON 28501 919 522-1626

DUBOW, DAVID ALAN EM /IM 034
1957 STONEWOOD DR. A S
WINSTON-SALEM 27103 919 768-2751

DUCK, WALTER OTIS FP 057
DRAWER 729 P * L/RT
MARS HILL 28754 704 689-2411

DUCKETT, CHARLES HOWARD FP 074
ECU SCHOOL OF MEDICINE A * AC
GREENVILLE 27834 919 551-4614

DUDLEY, ALLISON JOHNSON PD 060
2317 RANDOLPH ROAD AC
CHARLOTTE 28207 704 376-5572

DUDLEY, CHARLES COUNCIL, JR. PTH /FP 086
320 IVY CIRCLE A
ELKIN 28621 919 835-2931

DUDLEY, JOSEPH BOYLES PTH 034
3333 SILAS CREEK PARKWAY A AC
WINSTON-SALEM 27103 919 760-5840

DUDLEY, R. ADAMS 032
1315 MORREENE RD. APT. 20-B A S
DURHAM 27705 919 383-6387

DUFFY, CHARLES FP 025
607 POLLOCK STREET A L
NEW BERN 28560 919 637-2077

DUKES, ROBERT RAYMOND 074
1301-A DICKINSON AVE. A S
GREENVILLE 27834 919 756-9928

DULA, FREDERICK MAST, JR. R 080
102 MOCKSVILLE AVE. A AC
SALISBURY 28144 704 633-1023

DULIN, THOMAS LEROY FP 060
200 GREENWICH RD. A AC
CHARLOTTE 28211 704 366-5002

DUMAS, MARK NEAL IM 054
313 AIRPORT RD. AC
KINSTON 28501 919 522-3072

DUMMIT, ELDON STEVEN, JR. PTH 053
P. O. BOX 1378 A AC
SANFORD 27330 919 774-2272

DUNAWAY, HOWARD YATES, III ORS 060
1012 S. KINGS DR., STE. 101 A AC
CHARLOTTE 28283 704 372-0743

DUNCAN, DALE LEMOIN R/ON 041
604 WALTER REED DR. A AC
GREENSBORO 27403 919 294-2670

DUNCAN, MARGARETA JOHNSON FP 043
306 W. EDGERTON STREET A AC
DUNN 28334 919 892-2567

DUNCAN, STACY ALLEN, JR. FP 043
306 W. EDGERTON STREET A AC
DUNN 28334 919 892-2151

DUNCAN, THANE EDWARD 034
821 S. HAWTHORNE ROAD A S
WINSTON-SALEM 27103 919 748-4407

DUNKELBERG, RAY HAMILTON IM /NEP 088
NEWLAND MED. BLDG. A AC
BREVARD 28712 704 884-9030

DUNLAP, BENJAMIN EMERSON FP 049
925-C THOMAS STREET * AC
STATESVILLE 28677 704 872-7636

DUNLAP, JACK ERWYN ORS 078
4320 FAYETTEVILLE ROAD AC
LUMBERTON 28358 919 739-0634

DUNLAP, WILLIAM MARSHALL ON /IM 092
3521 HAWORTH DR. A AC
RALEIGH 27609 919 782-1806

DUNN, ERNEST CLINTON, JR. GP 025
ROUTE #1, #41, TOPSAIL DRIVE A AC
ORIENTAL 28571 919 249-1061

DUNN, JACK NEWTON U 045
512 SIXTH AVENUE, WEST A AC
HENDERSONVILLE 28739 704 692-6262

DUNN, RICHARD BERRY GYN 041
P. O. BOX 190 A L
CLIMAX 27233 919 674-9745

DUNPHY, DONAL LEO PD 032
UNC, DEPT. OF PEDIATRICS A AC
CHAPEL HILL 27514 919 966-2504

DUNSON, MARY E. 034
BOX 344, BOWMAN GRAY MED. SCH. A S
300 S. HAWTHORNE RD.
WINSTON-SALEM 27103 919 723-0527

DUPUY, DAVID NORRIS ORS 060
3535 RANDOLPH ROAD A AC
CHARLOTTE 28211 704 365-2111

DUPUY, SAMUEL STUART U 060
301 HAWTHORNE LANE A AC
CHARLOTTE 28204 704 374-0236

DURFEE, MICHAEL FULK ADL /PD 092
WAKE TEEN MEDICAL SERVICES AC
619 OBERLIN RD.
RALEIGH 27605 919 828-0035

DURHAM, CECIL TRACY, JR. N 011
7 MCDOWELL STREET A AC
ASHEVILLE 28801 704 255-7776

DUROCHER, KEVIN HOWARD P 065
2311 CANTERWOOD DR. A AC
WILMINGTON 28401 919 762-9606

DURR, WALTER JACOB GS 050
P. O. BOX 455 A L
SYLVA 28779 704 586-6060

DUSZLAK, EDWARD J., JR. DR 001
3029 S. FAIRWAY DR. AC
BURLINGTON 27215 919 228-1371

DUTTON, JONATHAN JOSEPH OPH /ON 032
BOX 3802, DUKE EYE CENTER A AC
DURHAM 27710 919 684-3142

DUVALL, PAUL BRANDON FP 088
NEWLAND MED. BLDG. A AC
GALLIMORE ROAD
BREVARD 28712 704 884-9030

DYE, DAVID GODDARD ORS 041
530 N. ELAM AVE. A P AC
GREENSBORO 27403 919 292-8824

DYER, DAVID PATTERSON PD /A 044
2436 ASHEVILLE ROAD * AC
WAYNESVILLE 28786 704 456-9041

DYKE, CORNELIUS MCKOWN 032
BOX 2722, DUMC A * S
DURHAM 27710 919 493-7104

DYKERS, JOHN REGINALD, JR. FP 019
P. O. BOX 565 AC
422 N. IVY AVENUE
SILER CITY 27344 919 663-2931

EADIE, EDWARD B., JR. U 070
1134 N. ROAD STREET A P AC
ELIZABETH CITY 27909 919 338-4141

EAGLES, ARCHIE YELVERTON IM 008
MEDICAL ARTS CENTER L
AHOSKIE 27910 919 332-4155

EAKINS, JOEY WILLIAM ID 065
ROUTE #3, BOX 303-K A AC
WILMINGTON 28403 919 763-3651

EARL, JOHN KEITH FP 013
210 13TH AVE. PLACE, N.W. AC
HICKORY 28601 704 328-2941

EARLY, IRA GORDON IM /CD 034
2240 CLOVERDALE AVE. STE. 192 A AC
WINSTON-SALEM 27103 919 722-6010

EARNEST, ROBERT RHEA PD /ADL 044
107 WOODLAND DRIVE * AC
WAYNESVILLE 28786 704 452-2211

EARNHARDT, JAMES FREDERICK PD 034
3318 HEALY DRIVE A AC
WINSTON-SALEM 27103 919 765-8490

EARNHARDT, RICHARD CRAIG 032
2836 CHAPEL HILL RD. APT. 30-B A S
DURHAM 27707 919 493-7968

EARP, HENRY SHELTON, III END /IM 032
UNC, DEPT. OF MEDICINE AC
CHAPEL HILL 27514 919 966-3338

EASLEY, ELEANOR BEAMER GYN /OBS 032
141 CAROL WOODS A L/RT
CHAPEL HILL 27514 919 968-8229

EASOM, HERMAN FRANKLIN PUD /R 098
P. O. BOX 1521 A L
WILSON 27893 919 243-4752

EASON, ERNEST BERNARD IM 001
1522 VAUGHN RD. A AC
BURLINGTON 27215 919 226-1658

EASON, GEORGE WILLIAM DR 098
111 RIPLEY ROAD A AC
WILSON 27893 919 399-8112

EASON, PAUL RICHARD 032
1201-A HOLLOWAY LANE A S
CHAPEL HILL 27514 919 933-5006

EASTERLING, WILLIAM E., JR. GYN /END 032
UNC SCHOOL OF MEDICINE A * AC
CHAPEL HILL 27514 919 966-5214

EASTON, EDWARD JAMES, JR. NM /DR 060
PO BOX 32861 A AC
CHARLOTTE 28232 704 373-2430

EASTWOOD, FREDERICK THOMAS PD 092
P. O. BOX 30203 A L/RT
RALEIGH 27622 919 787-1961

EATON, ALEXANDER MELLON 032
BOX 2723, DUMC A S
DURHAM 27710 212 289-5639

EATON, HUBERT ARTHUR, JR. IM 065
P. O. BOX 982 AC
WILMINGTON 28401 919 763-5453

EATON, JEFFREY GRAY 034
103 CAROLINA CIRCLE A S
WINSTON-SALEM 27104 919 721-9163

EATON, ROBERT FARRELL ORS 045
1027 FLEMING STREET A AC
HENDERSONVILLE 28739 704 692-5781

EAVES, RUPERT SPENCER, JR. OPH 036
631 COX RD. A AC
GASTONIA 28054 704 864-7789

EBELING, JAMES GERARD IM 032
3742 SWARTHMORE RD. A R
DURHAM 27707 919 471-2044

EBERLE, ROBERT ADAM IM 034
2240 CLOVERDALE AVE. STE. 215 AC
WINSTON-SALEM 27103 919 725-3591

EBERT, JAMES B., JR. 074
#4 CARRIAGE HOUSE A S
GREENVILLE 27834 919 756-5093

EBKEN, RICHARD KEPPLER GS /TS 053
P. O. BOX 1169 A * AC
SANFORD 27330 919 775-7146

ECKBERT, WILLIAM FOX FP 036
P. O. BOX 309 A L
CRAMERTON 28032 704 824-1321

ECKLEY, GEORGE MORGAN, JR. IM 049
110-P STOCKTON STREET A P AC
STATESVILLE 28677 704 873-4334

EDDINGER, CHARLES FREDERICK FP 080
P. O. BOX 45 AC
SPENCER 28159 704 636-1720

EDDINS, GEORGE EDGAR, JR. IM /CD 084
214 E. NORTH STREET A AC
ALBEMARLE 28001 704 982-1136

EDELBERG, JAY MARSHALL 032
BOX 2730, DUMC A S
DURHAM 27710 919 286-7394

EDKINS, PATRICIA TEAGUE TR 032
RT. #4, BOX 357 A AC
CHAPEL HILL 27514 919 966-1101

EDMONDS, JOHN HENRY, JR. CD /IM 034
BOWMAN GRAY SCH. OF MED. A * AC
WINSTON-SALEM 27103 919 748-4208

EDMONDSON, FRANK, JR. FP 076
P. O. BOX 2628 A L/RT
ASHEBORO 27203 919 625-3230

EDMUNDSON, WARNER L. WELLS IM 092
3900 BROWNING PL. A AC
RALEIGH 27609 919 781-9650

EDWARDS, CHARLES DANIEL GS 096
202 CARSWELL LANE A AC
GOLDSBORO 27530 919 778-1205

EDWARDS, CHARLES HILLMAN, II CDS /TS 060
301 HAWTHORNE LANE AC
CHARLOTTE 28204 704 375-8413

EDWARDS, ELLISON FRANCIS PS /MFS 060
3535 RANDOLPH ROAD, STE. 204 A AC
CHARLOTTE 28211

EDWARDS, ELMO STEPHEN PD 092
2800 BLUE RIDGE BLVD.,STE. 501 A P * AC
RALEIGH 27607 919 781-7490

EDWARDS, GEORGE SADLER, JR. HS /ORS 092
3410 EXECUTIVE DR. A AC
RALEIGH 27609 919 872-5296

EDWARDS, GEORGE SADLER, SR. ORS 092
3410 EXECUTIVE DRIVE A AC
RALEIGH 27609 919 872-5296

EDWARDS, JAMES L., JR. IM /GE 041
1100 OLIVE STREET A AC
GREENSBORO 27401 919 378-9906

EDWARDS, JAMES RONALD PTH 092
ROUTE #7, BOX 210-E A AC
RALEIGH 27614 919 755-8260

EDWARDS, JOEL LYNN FP 034
P. O. BOX 666 P AC
MOCKSVILLE 27028 704 634-6128

EDWARDS, TIMOTHY FREEMAN OBG 067
245 MEMORIAL DR. A P AC
JACKSONVILLE 28540 919 353-4333

EDWARDS, WILSON BARTON, JR. 074
111 N. MEADE STREET A S
GREENVILLE 27834 919 758-1547

EGERTON, COURTNEY DAVID GYN 092
P. O. BOX 18568 A P AC
RALEIGH 27619 919 782-1273

EGLINTON, DANIEL THOMAS ORS 011
53 S. FRENCH BROAD A AC
ASHEVILLE 28801 704 274-2236

EGUEZ, JORGE 031
PO BOX 310 AC
WALLACE 28466 919 285-2191

EHLE, ALBERT LAWRENCE N 032
UNC, 751 BURNETT-WOMACK A * AC
CHAPEL HILL 27514 919 966-3707

EHRLICHMAN, GLORIA SOTOMAYOR PD 082
603 BEAMAN STREET AC
CLINTON 28328 919 592-7712

EICHENBRENNER, TIMOTHY JOHN PD 060
225 HAWTHORNE LN., STE. 202 AC
CHARLOTTE 28204 704 332-8111

EIFRIG, DAVID ERIC OPH 032
UNC, DEPT. OF OPHTHALMOLOGY A * AC
CHAPEL HILL 27514 919 966-5296

EISELE, JOHN EVANS PD /PM 074
PO BOX 6028 A AC
GREENVILLE 27834 919 551-4440

EISENACH, JAMES CONRAD AN 034
FORSYTH MEMORIAL HOSP. A AC
OBSTETRIC ANESTHESIA
WINSTON-SALEM 27103 919 760-5295

EISENBERG, CARL JESSE R 060
2001 VAIL AVE. A P AC
CHARLOTTE 28207 704 379-5860

EL-BAYADI, NAGUI R. GS 050
SKYLAND MED. BLDG. A AC
SKYLAND DRIVE
SYLVA 28779 704 586-2156

EL-DROUBI, HAZEM U 077
1219 ROCKINGHAM ROAD A P AC
ROCKINGHAM 28379 919 997-5054

ELBER, ERWIN RICHARD OTO 090
1501 E. FRANKLIN STREET A P * AC
MONROE 28110 704 289-9415

ELESHA, WILLIAM GS 034
1900 HAWTHORNE RD. #214 A P AC
WINSTON-SALEM 27103 919 765-1610

ELIZONDO, MERCEDITAS O. GP /PTH 081
20 N. MAIN STREET A AC
CLIFFSIDE 28024 704 657-9742

ELKORDY, MAHA ABDUL-HAFEZ 032
12E SHARON HEIGHTS A S
CHAPEL HILL 27514 919 942-7699

ELLEDGE, EMMETT SCOTT OTO 034
114 DEVONSHIRE DR. A R
SAN ANTONIO, TX 78209

ELLENBOGEN, CHARLES IM /ID 026
1601-B OWEN DRIVE A AC
FAYETTEVILLE 28304 919 323-1152

ELLINGTON, AMZI JEFFERSON, JR. GYN 001
291 N. GRAHAM-HOPEDALE RD. AC
BURLINGTON 27215 919 226-2423

ELLINGTON, ROBERT NORWOOD OBG 001
291 N. GRAHAM-HOPEDALE ROAD AC
BURLINGTON 27215 919 226-2423

ELLIOTT, CHARLES MARTIN CD /IM 060
1960 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 373-1503

ELLIOTT, HARDIE BISHOP EM 063
47 VILLAGE GREEN A AC
SOUTHERN PINES 28387 919 692-7451

ELLIOTT, JAMES FRANCIS, SR. P 039
ROUTE #2, BOX 405 A AC
CREEDMOOR 27522 919 528-2433

ELLIOTT, JOS. ALEXANDER, JR. D 060
1900 RANDOLPH RD. SUITE 714 A * AC
CHARLOTTE 28207 704 375-0043

ELLIS, CHARLES ROBERT FP 080
106 S. MYRTLE ST. A AC
CHINA GROVE 28023 704 857-0137

ELLIS, CLARENCE ONEIL IM 060
2021 E. 7TH ST. A AC
CHARLOTTE 28204 704 372-9884

ELLIS, GEORGE GREENE FP 059
P. O. BOX 789 AC
OLD FORT 28762 704 668-7694

ELLIS, GEORGE JOSEPH, JR. OBG 034
6034 RITTENHOUSE RD. A AC
WINSTON-SALEM 27104 919 765-6172

ELLIS, JOHN NELSON ORS 063
PINEHURST SURGICAL CLINIC A AC
PINEHURST 28374 919 295-6831

ELLISON, CARROL WENDELL OBG 012
500 E. PARKER ROAD A P AC
MORGANTON 28655 704 433-5700

ELLISON, GERALD LYNN DR 026
495 RAYCONDA P AC
FAYETTEVILLE 28304 919 483-7400

ELLISON, PAUL STRIBLING, JR. 023
408-B LEWIS ST. A S
GREENVILLE 27834 919 482-6217

ELLISON, THOMAS SCOTT 023
2401 FAIRWAY DR. A S
WINSTON-SALEM 27103 919 722-1807

ELLISTON, E. BRUCE FP 011
206 ASHELAND AVE. A AC
ASHEVILLE 28801 704 258-8681

ELLISTON, WINSTON LEON AI /PD 011
210 ASHELAND AVE. A P AC
ASHEVILLE 28801 704 253-3382

ELMORE, MILES IM /NEP 011
10 MCDOWELL STREET A AC
ASHEVILLE 28801 704 258-8545

ELMORE, WILLIAM GLENN DR 042
P. O. BOX 249 * AC
ROANOKE RAPIDS 27870 919 535-2121

EMERY, DARYL CHARLES IM /CD 092
1212 CEDARHURST DR. A * AC
RALEIGH 27615 919 872-4850

ENGELKE, STEPHEN CARL PD /NPM 074
220 PINEVIEW DRIVE AC
GREENVILLE 27834 919 551-4665

ENGELSTAD, ANNE CARINE A. 034
108 OLD OAK CIRCLE #B2 A S
WINSTON-SALEM 27106 919 767-8331

ENGSTROM, GEORGE ALFRED PD 013
40 ARDSLEY AVENUE, N.E. AC
CONCORD 28025 704 786-1145

ENNIS, GEORGE ELLIOTT IM /HEM 018
912 SECOND STREET, N. E. A P AC
HICKORY 28601 704 328-2381

ENOJADO, SILVERIO CASTRO,JR. FP 009
P. O. BOX 308 A AC
CLARKTON 28433 919 647-4311

ENRIGHT, KATHERINE ANNE IM 032
BOX 3099, DUMC A R
DURHAM 27710 919 684-2675

ENSOR, ROBERT DALE U 060
1333 ROMANY ROAD * AC
CHARLOTTE 28204 704 372-5180

EPES, CHARLES RICHARD OPH 041
3312 BATTLEGROUND AVE. A AC
GREENSBORO 27410 919 282-5000

EPNER, RONALD ALAN ORS /HS 092
101 S.W. CARY PARKWAY A AC
CARY 27511 919 467-4992

EPPLE, KENNETH HALL P 041
2311 LAFAYETTE AVE. A RT
GREENSBORO 27408 919 288-6215

EPSTEIN, SUSAN ELISE 034
1815 BRANTLEY ST. A * S
WINSTON-SALEM 27104

ERB, NORRIS SCRIBNER U 080
8 OAK ROAD AC
SALISBURY 28144 704 633-2449

ERDIN, ROBERT ALEXANDER, JR. CD /IM 040
624 QUAKER LN., STE. 103-C A P AC
HIGH POINT 27262 919 885-6168

ERLANDSON, STEPHEN ERIC FP 086
815 N. BRIDGE ST. AC
ELKIN 28621 919 835-4819

ERNEST, JOSEPH MACDONALD, III OBG 034
BOWMAN GRAY, DEPT. OF OBG AC
WINSTON-SALEM 27103 919 748-4291

ERNST, HENRY EDWIN IM 013
167 INGLESIDE DRIVE, S.E. L/RT
CONCORD 28025 704 782-0960

ERRICO, JAMES MELTON OPH 040
100 WESTWOOD AVENUE A P AC
HIGH POINT 27262 919 889-2323

ERTISCHEK, STEPHEN DAVID IM 039
1032 COLLEGE STREET A AC
OXFORD 27565 919 693-6541

ERTUGRUL, GULTEKIN GS /TS 004
508 MORVEN ROAD A AC
WADESBORO 28170 704 694-2136

ESHELMAN, THOMAS CARL R 092
8512 BOURNEMOUTH DR. A AC
RALEIGH 27615 919 755-3023

ESPEY, DAN, JR. FP 018
24 SECOND AVE., NE A AC
HICKORY 28601 704 327-4453

ESPORAS, DEMOSTHENES CAGBALINO U 053
1610 LORD ASHLEY DR. A AC
SANFORD 27330 919 775-7146

ESTES, EDWARD HARVEY, JR. IM /CD 032
407 CRUTCHFIELD ST. A P * AC
DURHAM 27704 919 471-2571

ESTOYE, CESAR ROMERO GS /GP 073
601 RIDGE ROAD A P AC
ROXBORO 27573 919 599-0202

ESTOYE, TERESITA FERRER OBG /NPM 073
601 RIDGE ROAD A P AC
ROXBORO 27573 919 599-0202

ESTWANIK, JOSEPH JOHN ORS 060
1516 ELIZABETH AVE. AC
CHARLOTTE 28204 704 334-4663

ETHERINGTON, JOHN L. OPH /OTO 096
2709 MEDICAL OFFICE PLACE L
GOLDSBORO 27530 919 735-3701

EUBANKS, WILLIAM MALCOLM, JR. OBG 060
1712 E. FOURTH STREET A AC
CHARLOTTE 28204 704 375-9074

EURE, CHARLES ALLAN IM 092
3521 HAWORTH DR. * AC
RALEIGH 27609 919 782-1806

EVANGELIST, FELIX ANTHONY CDS /TS 060
1900 RANDOLPH RD. STE. 408 A P AC
CHARLOTTE 28207 704 333-7731

EVANS, AMOS RAY P 074
1705 W. SIXTH STREET, BLDG. H A P AC
GREENVILLE 27834 919 758-4810

EVANS, DAVID ARNOLD OBG 090
1408 E. FRANKLIN ST. A * AC
MONROE 28110 704 289-2553

EVANS, JAMES HARVEY 074
E-6 DOCTOR'S PARK A S
GREENVILLE 27834 919 758-2577

EVANS, JOSEPHINE ADAMSON 032
1010 DEMERIUS ST. A S
DURHAM 27701 919 688-5730

EVANS, OTIS DRUELL, JR. OBG 023
110 W. GROVER STREET A AC
SHELBY 28150 704 487-5258

EVANS, WALLACE NICKLES, II FP 092
121 EDINBURGH SOUTH, STE. 100 A AC
CARY 27511 919 467-3281

EVATT, W. CHRISTOPHER 074
A-Z UNIVERSITY MEDICAL PK. A S
GREENVILLE 27834 919 758-2059

EVERETT, ROY NATHAN PUD 054
109 AIRPORT ROAD A AC
KINSTON 28501 919 522-4094

EVERHART, CARLTON DHU FP 086
911 WORTH ST. AC
MOUNT AIRY 27030 919 786-5108

EWERS, EDWIN PATTERSON FP 031
P. O. BOX 487 A L/RT
WARSAW 28398 919 293-4432

EWING, JOHN ALEXANDER P 026
1262 OLIVER ST. A AC
FAYETTEVILLE 28304 919 484-5151

EYERMAN, MELVIN FREDERIC PH 034
1244 ARBOR ROAD, 444 A * L/RT
WINSTON-SALEM 27104 919 723-7420

EYSTER, JAMES M. DR 092
1028 WASHINGTON ST. A AC
PO BOX 10956
RALEIGH 27605 919 834-8733

FABIAN, DENIS PS /GS 026
503 OWEN DR. A AC
PO BOX 64517
FAYETTEVILLE 28306 919 483-8121

FADIAL, JOHN MURRAY EM 060
PO BOX 33549 A AC
CHARLOTTE 28233 704 371-4160

FAGAN, JAMES ARTHUR DR /NM 060
PO BOX 33549 A AC
CHARLOTTE 28233 704 371-4056

FAGG, JOHN ANDERSON PS 034
2901 MAPLEWOOD AVENUE A * AC
WINSTON-SALEM 27103 919 765-8620

FAGUNDUS, DUNCAN MCLEOD 074
410-B STUDENT ST. A S
GREENVILLE 27834 919 752-3014

FAHL, JAMES COX GS 018
24 SECOND AVENUE, N. E. A AC
HICKORY 28601 704 328-2231

FAIL, PHILIP JACKSON GP 014
913 HARPER AVENUE, S.W. AC
LENOIR 28645 704 758-2353

FAIRCHILD, KAREN DIANE 032
4012 HILLGRAND DR. A S
DURHAM 27705 919 383-5160

FAJARDO, AGAPITO LACSON GP 082
407 BEAMAN ST. A AC
CLINTON 28328 919 592-1462

FAJGENBAUM, DAVID MONIEK ORS 092
3410 EXECUTIVE DRIVE A AC
RALEIGH 27619 919 872-5296

FALES, ROBERT MARTIN GS 065
407 W. RENOVAH CIRCLE A L/RT
WILMINGTON 28403 919 762-1285

FALLETTA, JOHN MATTHEW PHO 032
BOX 2916, DUMC AC
DURHAM 27710 919 684-3401

FALLS, DARRYL LEE OBG 016
#9 MEDICAL PARK AC
MOREHEAD CITY 28557 919 726-0107

FALVO, SAMUEL CATANZARO CRS /GS 045
511 SIXTH AVENUE, WEST A AC
HENDERSONVILLE 28739 704 693-9566

FAN, JACK J. FP 051
P. O. BOX 807 A AC
CLAYTON 27520 919 553-5711

FARABOW, WILLIAM SIDNEY OBG 040
400 N. ELM ST. A P AC
HIGH POINT 27260 919 889-4353

FARAHNAKIAN, ALI R 034
PO BOX 104 AC
DANBURY 27016

FARIS, JOHN CHARLES DR /NM 034
2803 LYNDHURST AVE. A P * AC
WINSTON-SALEM 27103 919 768-1021

FARLEY, DYER JACKSON, JR. GS 055
P. O. BOX 757 AC
LINCOLNTON 28092 704 735-0481

FARLEY, ROBERT HUGH GS 041
311 W. WENDOVER AVE. A AC
GREENSBORO 27408 919 275-8415

FARLEY, WILLIAM WINFREE PD 092
3814 BROWNING PLACE * AC
RALEIGH 27609 919 782-8326

FARMER, CHARLES DUDLEY NEP /IM 060
928 BAXTER ST. A AC
CHARLOTTE 28204 704 374-1321

FARMER, JOHN LOVELACE, JR. D 092
231 BRYAN BUILDING AC
RALEIGH 27605 919 828-0288

FARMER, JOSEPH C., JR. OTO /OT 032
DUKE, DEPT. OF SURGERY A AC
DURHAM 27710 919 684-6357

FARMER, THOMAS WOHLSEN N/IM 032
UNC SCHOOL OF MEDICINE A * L
751 BURNETT-WOMACK BLDG 229-H
CHAPEL HILL 27514 919 966-2526

FARMER, WOODARD EASON IM 011
27 PARK RD. A L
ASHEVILLE 28813 704 274-0718

FARNHAM, ROBERT, III PTH 060
PRESBYTERIAN HOSP A AC
PATHOLOGY DEPT.
CHARLOTTE 28233 704 371-4814

FARRELL, FRANK WILSON, JR. DR 034
3155 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27103 919 773-3878

FARRINGTON, CECIL MURRAY, JR. FP 080
322 MOCKSVILLE AVENUE AC
SALISBURY 28144 704 637-1123

FARRINGTON, JOHN KIRBY OBG 040
307 N. LINDSAY ST. A AC
HIGH POINT 27262 919 885-0149

FAULL, CLIFFORD EDWARD ORS 050
3 EASTGATE A AC
SYLVA 28779 704 586-5531

FAUSCH, MARK DAVID IM 096
1201-C WAYNE MEMORIAL DR. AC
GOLDSBORO 27530 919 734-7530

FAX, JOHN NICHOLAS, JR. ORS 078
204 W. 28TH STREET A P AC
LUMBERTON 28358 919 739-4313

FAYEZ, JAMIL ABDEL-LATIF OBG /END 034
BOWMAN GRAY SCH. OF MEDICINE * AC
WINSTON-SALEM 27103 919 748-2368

FEARRINGTON, ERIC CD /IM 074
2 MEDICAL PAVILION AC
GREENVILLE 27834 919 752-3185

FEDDER, MARC IM /ID 029
208-D W. CENTER STREET A AC
P. O. BOX 557
LEXINGTON 27292 704 249-4296

FEDOR, JOHN MICHAEL CD /IM 060
1960 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 373-1500

FEE, BRUCE EDGAR R 060
1350 S. KINGS DRIVE AC
CHARLOTTE 28207 704 372-8750

FEESER, SCOTT ALAN 032
4800 UNIVERSITY DR. #27E A S
DURHAM 27707 919 493-0433

FEEZOR, CHARLES NOEL FP 080
6 PINETREE ROAD A L
SALISBURY 28144 704 633-1787

FEEZOR, CHARLES NOEL, JR. U 060
3535 RANDOLPH ROAD, STE. 101 AC
CHARLOTTE 28211 704 366-4631

FEHRING, THOMAS K. ORS 060
120 PROVIDENCE ROAD A AC
CHARLOTTE 28207 704 377-0351

FEIN, DOUGLAS A. 034
300 S. HAWTHORNE RD. A S
BOX 484, BOWMAN GRAY
WINSTON-SALEM 27103 919 724-4478

FELDMAN, WALTER SIDNEY P/LM 060
501 BILLINGSLEY RD. A AC
CHARLOTTE 28211 704 375-3575

FELIX, RICHARD REID P/PYM 011
A-305 DOCTOR'S BUILDING AC
ASHEVILLE 28801 704 258-3880

FELKNER, RICHARD S. OTO 060
1600 E. THIRD STREET A AC
CHARLOTTE 28204 704 372-3300

FELTON, ROBERT LEE, JR. GP 063
PO BOX 57 A L
WATERFORD, VA 22190 703 882-3743

FELTS, JOHN HARVEY NEP /IM 034
BOWMAN GRAY SCH. OF MED. AC
WINSTON-SALEM 27103 919 748-4259

FENCL, RAYMOND JOHN U 086
180-0 PARKWOOD AC
ELKIN 28621 919 526-2000

FENNING, ROBERT LAWRENCE ON /ON 060
3535 RANDOLPH ROAD A AC
CHARLOTTE 28211 704 365-0760

FERDON, BENJAMIN BETHEA IM 092
3100 BLUE RIDGE BLVD.,#300 A P AC
RALEIGH 27612 919 781-7500

FERGUSON, ALFRED LEA NEP /IM 074
6 DOCTOR'S PARK A P * AC
GREENVILLE 27834 919 752-8880

FERGUSON, BERRYLIN JUNE OTO 032
2620 MCDOWELL ST. A R
DURHAM 27705 919 684-6872

FERGUSON, GEORGE BURTON OTO 032
1110 W. MAIN STREET A L
DURHAM 27701 919 682-9341

FERGUSON, WILLIAM CLAY GS /TS 034
2680 REYNOLDS DRIVE A AC
WINSTON-SALEM 27104 919 765-8020

FERNALD, GERALD WALLACE PD /ID 032
N. C. MEMORIAL HOSPITAL A AC
CHAPEL HILL 27514 919 966-2069

FERNANDEZ, CHARLES RAYMOND ID /IM 060
1350 S. KINGS DRIVE A AC
CHARLOTTE 28207 704 372-8750

FERNANDEZ, ISABEL M. 034
1900 QUEEN ST. APT. C-1 A S
WINSTON-SALEM 27103 919 723-3463

FERRARI, CAROLYN JEAN 034
2920 NORTHBRIDGE S
WINSTON-SALEM 27103 919 765-5288

FERREE, CAROLYN RUTH BLACK TR 034
300 S. HAWTHORNE RD. A P * AC
WINSTON-SALEM 27103 919 748-4981

FERREE, CHARLES ELLIOT IM 060
3535 RANDOLPH RD. A AC
CHARLOTTE 28211 704 365-0760

FERRELL, PAUL BRENT RHU /IM 023
808 SCHENCK ST. A AC
SHELBY 28150 704 482-1482

FERRY, SENECA TAYLOR, II EM /FP 016
P. O. BOX 8 A AC
SMYRNA 28579 919 729-7831

FETTER, BERNARD FRANK PTH 032
DUKE UNIV. MEDICAL CENTER A * AC
DURHAM 27710 919 684-3685

FEUER, ABE LAWRENCE OTO 036
1006 FAIRFIELD DR. L/RT
GASTONIA 28054 704 864-2222

FEWELL, JOSEPH EURANUS, JR. PS 018
420 N. CENTER STREET A P AC
HICKORY 28601 704 322-8380

FICKLEN, CONWAY HAMILTON OBG 065
1912 MEETINGS COURT AC
WILMINGTON 28401 919 763-8471

FIELD, BOB LEWIS FP 080
1239 W. HENDERSON ST. A L
SALISBURY 28144 704 636-0732

FIELDS, KARL BERTRAND FP 041
1411 GARLAND DR. A AC
GREENSBORO 27408 919 379-4133

FIELDS, THOMAS DUDLEY U 007
604 E. 12TH ST. A AC
WASHINGTON 27889 919 946-0136

FILLIPO, DREW CRAIG 032
311 E. PATTERSON PLACE A S
CHAPEL HILL 27514 919 967-4626

FILSTON, HOWARD CHURCH PDS /GS 032
BOX 3815, DUMC A AC
DURHAM 27710 919 684-3478

FINA, MICHAEL FRANCIS GE /IM 034
1901 S. HAWTHORNE RD., #310 A AC
WINSTON-SALEM 27103 919 760-4340

FINCHER, ROBERT CHARLES, JR. P/PH 040
107 SPENCER STREET A * L/RT
HIGH POINT 27260 919 889-5511

FINESTONE, DOUGLAS HOWARD PYM /PYA 032
BOX 3889, DUMC A AC
DURHAM 27710 919 684-3318

FINGER, FREDERICK ELI, III NS 060
1900 RANDOLPH RD., STE. 502 A AC
CHARLOTTE 28207 704 372-8860

FINK, EMMA SLOOP FP 006
BOX 160 A P * L
CROSSNORE 28616 704 733-4367

FINK, GARY LEE IM 060
BROWN ST., P. O. BOX 610 AC
FAITH 28041 704 279-2981

FINKLEA, LEE KILPATRICK PD 034
250 CHARLOIS BLVD. A AC
WINSTON-SALEM 27103 919 768-4730

FINKLEA, ORION TOWNSEND U 060
1333 ROMANY ROAD AC
CHARLOTTE 28204 704 372-5180

FINLEY, JAMES LEO PTH 074
BRODY 1F79, ECU SCH. OF MED. A AC
GREENVILLE 27834 919 551-4495

FINN, RICHARD CONNELL OBG 034
250 CHARLOIS BOULEVARD A AC
WINSTON-SALEM 27103 919 768-4730

FINN, WILLIAM FRANCIS, JR. EM 034
854 BRENT ST. A R
WINSTON-SALEM 27103 919 760-2462

FIORILLI, MARIO GRAZIA ID /IM 042
220 SMITH CHURCH ROAD A AC
ROANOKE RAPIDS 27870 919 535-3001

FISCHER, GARY JAY DR 041
P. O. BOX 13005 A AC
GREENSBORO 27405 919 379-4140

FISCHER, JANET JORDAN ID /IM 03
N. C. MEMORIAL HOSPITAL AC
CHAPEL HILL 27514 919 966-253

FISCHER, MARTIN JOSEPH TS /GS 01
520 BILTMORE AVENUE A AC
ASHEVILLE 28801 704 252-735

FISCHER, NEWTON D. MFS /OTO 03
UNC SCHOOL OF MEDICINE A AC
CHAPEL HILL 27514 919 966-334

FISH, HARRY GUSTAV, JR. GS 06
100 NASH MEDICAL ARTS MALL A * AC
ROCKY MOUNT 27801 919 443-908

FISHER, CARL ELLIS PD 03
902-C COX ROAD A AC
GASTONIA 28054 704 867-535

FISHER, EARL ELLIOTT, JR. PD 09
1700 S. TARBORO STREET A AC
WILSON 27893 919 291-437

FISHER, EDWARD CARL OBG 06
1023 EDGEHILL ROAD A AC
CHARLOTTE 28207 704 373-154

FISHER, ERNEST WOODROW FP 05
102 GEORGIA ROAD A L/RT
FRANKLIN 28734 704 524-575

FISHER, JOHN APFEL PD 09
DEPUTY DIRECTOR,MED. SERV. AC
O'BERRY CENTER, BOX 247
GOLDSBORO 27530 919 731-367

FISHER, MARSHALL LOUIS P 06
140 E. 83RD ST., APT. 11-C L
NEW YORK, NY 10028 212 535-8747

FISHER, OTIS NORWOOD R 041
P. O. BOX 13005 A AC
GREENSBORO 27405 919 379-436

FISHER, SAMUEL RANKIN HNS /OTO 032
BOX 3805, DUMC A * AC
DURHAM 27710 919 684-4201

FISHER, WILLIAM SLOAN, III OTO 034
175 CHARLOIS BLVD. STE. 101 A AC
WINSTON-SALEM 27103 919 768-3361

FISSCHER, ROLF HENDRIK P/N 065
2023 S. 17TH ST. AC
WILMINGTON 28401 919 343-0151

FITCH, DUANE DOUGLAS GE /IM 098
1704 S. TARBORO ST. A AC
WILSON 27893 919 291-7001

FITCH, ROBERT DOUGLAS ORS /PDS 032
BOX 2911, DUMC A AC
DURHAM 27710 919 684-3104

FITZ, THOMAS EDMUNDS IM /CD 018
2133 9TH ST. NW * L/RT
HICKORY 28601 704 322-1066

FITZGERALD, DWIGHT MELVIN GS /TS 018
ROUTE #2, BOX 196 AC
CONOVER 28613 704 322-8485

FITZGERALD, JOHN HILL GP /PD 055
626 CLARK DRIVE A L
LINCOLNTON 28092 704 735-8257

FITZGERALD, ROBERT GREESON GP 073
P. O. BOX 856 A AC
ROXBORO 27573 919 599-1131

FITZPATRICK, HUGH, III EM 040
117 S. MAIN ST. AC
ASHEBORO 27203 919 454-1166

FITZPATRICK, JOHN FRANCIS PTH /IM 076
RANDOLPH PATHOLOGY A RT
P. O. BOX 1948
ASHEBORO 27203 919 629-3282

FLANAGAN, BRIAN FRANCIS 032
618 MOREHEAD AVE. APT. #1 A S
DURHAM 27707 919 383-7627

FLANNERY, JOHN EDWARD IM 077
53 MAIN STREET A AC
HAMLET 28345 919 582-0004

FLEISHMAN, HENRY ARNOLD GS /CD 079
515 THOMPSON ST., STE. B A AC
EDEN 27288 919 623-9118

FLEISHMAN, LAWRENCE MARK IM 060
7110 LAWYER'S ROAD AC
CHARLOTTE 28211 704 568-6500

FLEISHMAN, MALCOLM IM /CD 026
P. O. BOX 35126 A P * AC
FAYETTEVILLE 28303 919 484-0144

FLEISHMAN, STEPHEN BAER P/CHP 026
1285 OLIVER STREET A P AC
FAYETTEVILLE 28304 919 484-4171

FLEMING, CHRISTOPHER PAUL OPH 078
202 W. 28TH ST. A * AC
LUMBERTON 28358 919 739-0606

FLEMING, DUARD FRANCIS, JR. N 074
425 STANTONSBURG ROAD A * AC
GREENVILLE 27834 919 752-4848

FLEMING, LAURENCE EDWIN ABS 060
1116 PROVIDENCE ROAD A L
CHARLOTTE 28207 704 332-6896

FLEMING, PAUL ARTHUR GYN /PYM 092
3613 HAWORTH DR. AC
RALEIGH 27609 919 781-5550

FLEMING, ROBERT HENRY PD 092
2800 BLUE RIDGE BLVD.,STE 501 A AC
RALEIGH 27607 919 781-7490

FLEMING, STEPHEN G. ORS 095
30 DOCTORS PARK AC
BOONE 28607 704 264-1100

FLEMING, WILLIAM LEROY GPM /IM 032
UNC, DEPT. OF FAMILY MED. A L/RT
CHAPEL HILL 27514 919 966-5745

FLETCHER, JOHN DAVID PH /PD 032
5244 INVERNESS DRIVE AC
DURHAM 27712 919 688-8018

FLETCHER, ROBERT GEORGE OM /FP 034
401 N. MAIN STREET A AC
WINSTON-SALEM 27102 919 777-2024

FLETCHER, ROBERT HILLMAN IM /PH 032
UNC, DEPT. OF MEDICINE AC
CHAPEL HILL 27514 919 966-1274

FLETCHER, SUZANNE WRIGHT IM /PH 032
UNC, DEPT. OF MEDICINE AC
CHAPEL HILL 27514 919 966-2276

FLEURY, ROBERT ANDRE P 063
PO BOX 56 A AC
SOUTHERN PINES 28387 919 692-6471

FLICK, CONRAD L. 032
BOX 2734, DUMC A S
DURHAM 27710

FLICKINGER, EDWARD GARNER GS 074
305 GRANVILLE DRIVE A AC
GREENVILLE 27834 919 551-4629

FLOOD, ROY DEVONNE FP 008
BOX #7, SPRING BRANCH ROAD A AC
MURFREESBORO 27855 919 398-3323

FLOREK, GERY KENT N/ON 032
BOX 3963, DUMC A R
DURHAM 27710 919 684-2662

FLORES, RODOLFO FLORES FP /IM 034
P. O. BOX 96 AC
DANBURY 27016 919 593-8281

FLOURNOY, JOHN EPPES R 054
KINSTON CLINIC, NORTH A AC
DOCTORS DRIVE
KINSTON 28501 919 527-7077

FLOWE, BENJAMIN HUGH GS /TS 013
56 LAKE CONCORD ROAD, N.E. A P AC
CONCORD 28025 704 786-1105

FLOWE, KENNETH MICHAEL 034
1608-H NORTHWEST BLVD. A S
WINSTON-SALEM 27104 919 761-1246

FLOYD, ANDERSON GAYLE GP 024
302 N. THOMPSON STREET L/RT
WHITEVILLE 28472 919 642-2150

FLOYD, HERBERT MYNATT AN 034
3551 BUENA VISTA ROAD A AC
WINSTON-SALEM 27106 919 748-8611

FLOYD, WALTER LAWRENCE CD /IM 032
BOX 2997, DUMC AC
DURHAM 27710 919 684-2845

FLOYD, WILLIAM RUSSEL GS 013
P. O. BOX 5347 A L
DECEASED-12-15-86
SPARTANBURG, SC 29304 803 583-4732

FLYTHE, WILLIAM HENRY IM 040
1131 GATEHOUSE ROAD A L
HIGH POINT 27260 919 882-8933

FOGLEMAN, ROSS LEE, JR. FP 054
KINSTON CLINIC A AC
KINSTON 28501 919 527-7194

FOIL, MARY BETH GS 074
PO BOX 87422 A AC
SAN DIEGO, CA 92870

FOLDS, WILLIAM FRANKLIN FP 034
5043 COUNTRY CLUB ROAD AC
WINSTON-SALEM 27104 919 768-9275

FOLGER, JOHN RUSSELL, JR. FP /PH 088
207 E. MAIN ST. A AC
BREVARD 28712 704 966-9633

FOLLMER, RONALD LESTER N 060
PO BOX 32861 A AC
CHARLOTTE 28232 704 338-4053

FOLLO, PAIGE BILL PD 041
1209 MAGNOLIA STREET A AC
GREENSBORO 27401 919 273-2879

FONTRIER, TOINETTE HELEN AN 034
8220 WHITE WATER DR. AC
CLEMMONS 27012 919 766-4321

FORBES, THOMAS EARL FP 079
P. O. BOX 659 A L/RT
REIDSVILLE 27320 919 349-5324

FORD, BLANCHARD FRED, JR. FP 010
P. O. BOX 336 A L
SHALLOTTE 28459 919 754-6474

FORD, CHARLES PHILLIP, JR. OM 054
5216 EMERALD DRIVE AC
EMERALD ISLE, ROUTE #3
MOREHEAD CITY 28557 919 354-3018

FORD, CHARLES STEPHEN N 040
105 BRANTLEY CIRCLE AC
HIGH POINT 27262 919 841-4233

FORD, MARSHA DEAN EM /IM 060
CHARLOTTE MEM. HOSP. A * AC
PO BOX 32861
CHARLOTTE 28232 704 338-3181

FORD, ROBERT VIRGIL, JR. PD 034
3175 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27103 919 768-7030

FORDE, RICHARD JAMES P 074
PO BOX 8428 A AC
GREENVILLE 27835 919 551-2661

FORDHAM, CHRISTOPHER C., III IM /NEP 032
UNC, 103 SOUTH BLDG. 005-A A AC
CHAPEL HILL 27514 919 962-1365

FORE, STEVEN RONALD OBG 041
200 E. NORTHWOOD ST. STE. 216 A AC
GREENSBORO 27401 919 275-5391

FORE, WILLIAM WHATELY END /IM 074
ECU SCHOOL OF MEDICINE A AC
GREENVILLE 27858 919 551-2571

FOREMAN, FRANK LEROY D 049
706 HARTNESS ROAD AC
STATESVILLE 28677 704 873-0545

FOREMAN, ROBERT HUGH FP 041
4104 REDWINE DRIVE AC
GREENSBORO 27410 919 294-6190

FOREMAN, SUSAN DOWNER PD 074
505 BREMERTON DR. AC
GREENVILLE 27834 919 752-7141

FORGY, BYRON KEITH GS 012
341 E. PARKER ROAD A AC
MORGANTON 28655 704 433-6390

FORMAN, MARK STUART 032
910 CONSTITUTION APT. 717 A S
DURHAM 27705

FORMANEK, AUGUSTIN GUSTAV DR /PD 034
BERMUDA RUN, BOX 617 A AC
103 HELLERI COURT
ADVANCE 27006 919 998-5333

FORREST, TERRY LEE OPH 096
PO BOX 10907 A AC
GOLDSBORO 27532 919 734-8440

FORREST, WILLIAM WOMBLE PTH 041
WESLEY LONG HOSPITAL A P AC
P. O. DRAWER X-3
GREENSBORO 27402 919 299-6815

FORRESTER, JAMES SUMMERS FP /GPM 036
P. O. BOX 459 A AC
STANLEY 28164 704 263-4716

FORSHEY, ALAN GRAY FP 018
21 EAST A STREET AC
NEWTON 28658 704 465-3928

FORSTNER, JAMES ROBERT FP 010
250 E. 11TH ST. A AC
SOUTHPORT 28461 919 278-3981

FORSYTH, H. FRANCIS ORS 034
2865 BARTRAM ROAD A L/RT
WINSTON-SALEM 27106 919 724-1334

FORT, LYNN, III GS /TS 060
3535 RANDOLPH ROAD, 201-W A AC
CHARLOTTE 28211 704 364-8100

FORT, WILKINSON DAVIS OBG 084
1000 N. FIFTH STREET A P AC
ALBEMARLE 28001 704 982-8112

FORTIER, KENNETH JOSEPH OBG 092
2800 BLUE RIDGE BLVD. STE. 502 A AC
RALEIGH 27607 919 781-5513

FORTNEY, AUSTIN POWELL IM 040
P. O. BOX 579 A AC
JAMESTOWN 27282 919 454-3151

FORTNEY, SIDNEY RAY IM /END 013
68 LAKE CONCORD ROAD, N.E. A AC
CONCORD 28025 704 782-3135

FORTUNE, BENJAMIN FLETCHER AN 041
906 W. CORNWALLIS DRIVE A L/RT
GREENSBORO 27408 919 272-7755

FOSTER, BOB MAXWELL FP 034
P. O. BOX 427 A * AC
MOCKSVILLE 27028 704 634-2108

FOSTER, JOHN THOMAS OPH 018
P. O. BOX 2588 A * AC
HICKORY 28603 704 322-2050

FOSTER, REX BENTLEY, III AN 060
1200 DILWORTH RD. A AC
CHARLOTTE 28203 704 338-2372

FOSTER, WILLIAM LEICESTER, JR. R 032
DUMC, DEPT. OF RADIOLOGY A AC
DURHAM 27710 919 286-0411

FOSTER, WILLIAM WADE OPH 092
3320 EXECUTIVE DR., STE. 111 A P * AC
RALEIGH 27609 919 876-2427

FOULKS, GARY NEAL OPH 032
BOX 3802, DUKE UNIV. EYE CTR. A * AC
DURHAM 27710 919 684-6417

FOUSHEE, J. HENRY SMITH, JR. PTH 034
718 FORSYTH MEDICAL PARK A P AC
WINSTON-SALEM 27103 919 768-2351

FOUSHEE, JOHN CALDWELL GS 053
1710 CARTHAGE ST. A L/RT
SANFORD 27330 919 775-7146

FOUST, JOHN WORTH OT 060
3535 RANDOLPH ROAD A P * AC
CHARLOTTE 28211 704 365-0711

FOWLER, HENRY JACKSON GP 034
P. O. BOX 38 A AC
WALNUT COVE 27052 919 591-4306

FOWLER, JOHN ALVIS PYA /CHP 032
2721 SPENCER ST. AC
DURHAM 27705 919 684-3044

FOWLER, WILLIAM BRIGHT IM 011
675 BILTMORE AVENUE A AC
ASHEVILLE 28803 704 252-1830

FOWLER, WILLIAM EDWARD 074
106 SCALES PL., B-1 S
GREENVILLE 27834 919 758-2908

FOX, EARL RUSSELL RHU /IM 070
1830 DELAWARE AVE. AC
CAPE MAY, NJ 08204 609 884-6391

FOX, ELISABETH JUNE AN 032
BOX 3083, DUMC AC
DURHAM 27710 919 681-3560

FOX, JOE THOMAS, JR. P 060
1900 RANDOLPH ROAD AC
CHARLOTTE 28207 704 333-7722

FOX, POWELL GRAHAM, JR. U 092
3320 WAKE FOREST RD. STE. 100 AC
PO BOX 17908
RALEIGH 27609 919 790-0036

FOX, RAYMOND MORRIS, JR. GYN /GP 067
P. O. BOX 910 A P AC
JACKSONVILLE 28541 919 347-2133

FOX, RICHARD FRANKLIN NEP /IM 041
208 W. WENDOVER AVE. AC
GREENSBORO 27401 919 379-9708

FOY, DAVID MARK FP 011
STE. 5-F, DOCTOR'S PARK AC
ASHEVILLE 28801 704 252-8885

FRAASA, ROBERT CONRAD FP 060
4625 COLONY RD. H A AC
CHARLOTTE 28226 704 535-4011

FRANCE, RANDAL DENNIS P/PYM 032
DUMC, DEPT. OF PSYCHIATRY AC
DURHAM 27710 919 684-5518

FRANCIS, EDWIN HOWARD EM 063
9 VILLAGE GREEN A RT
SOUTHERN PINES 28387 919 295-7777

FRANCIS, JOHN ARLIE OBG 021
PO BOX 990 AC
EDENTON 27932 919 482-7407

FRANCIS, KENNETH ROBERT 034
1400 CLIFF ST. #F A S
WINSTON-SALEM 27107 919 723-3817

FRANCIS, ROBERT DEAN ORS /HS 045
1027 FLEMING STREET A AC
HENDERSONVILLE 28739 704 692-5781

FRANK, JAMES LAWRENCE ORS 032
1828 HILLANDALE ROAD A AC
DURHAM 27705 919 286-1249

FRANK, JEFFREY H. N 040
1414 LYNDHURST DR. A AC
HIGH POINT 27260 919 889-8877

FRANK, JOE LEE, JR. R 008
515 S. PEMBROKE AVENUE A * AC
AHOSKIE 27910 919 332-2390

FRANKLIN, EARL RUFFIN PD 092
3803-A COMPUTER DR. AC
RALEIGH 27609 919 782-5273

FRANKLIN, ROBERT CHARLES FP 074
500 CEDARHURST A AC
GREENVILLE 27834 919 752-7133

FRASER, DONALD DOYLE D 060
1350 S. KINGS DR. AC
CHARLOTTE 28207 704 372-8750

FRASER, HUGH ERSKINE, JR. D 041
1030 PROFESSIONAL VILLAGE A AC
GREENSBORO 27401 919 373-1383

FRASER, ROBERT WELLINGTON, III TR 060
PO BOX 32861 A AC
CHARLOTTE 28232 704 338-2272

FRAZIER, ARNOLD RAY PUD /IM 060
CHARLOTTE MEMORIAL HOSPITAL A AC
P. O. BOX 32861
CHARLOTTE 28232 704 331-2121

FRAZIER, CLAUDE ALBEE A 011
DOCTOR'S PARK A AC
ASHEVILLE 28801 704 254-1650

FRAZIER, RICHARD ELLIS FP 042
120 PROFESSIONAL DRIVE AC
ROANOKE RAPIDS 27870 919 537-9176

FREDERICK, CHARLES E. AN 041
612 WAYCROSS DR. A AC
GREENSBORO 27410 919 299-6343

FREEDMAN, MICHAEL VY 074
110 FARMHOUSE PLACE A S
GREENVILLE 27834 919 756-0396

FREEDMAN, STEVEN MITCHELL N 092
PO BOX 40999 A * AC
RALEIGH 27629 919 782-3456

FREEL, PAUL DUANE 074
404 HILLCREST DRIVE A S
GREENVILLE 27834 919 355-7807

FREEMAN, DAVID FRANKLIN PYA /CHP 032
ASHE PLACE AC
CHAPEL HILL 27514 919 942-4867

FREEMAN, DOUGLAS G., JR. RHU /AI 092
3831 MERTON DRIVE A AC
RALEIGH 27609 919 781-9633

FREEMAN, NANCY ROUSER FP 044
PO BOX 1409 AC
CANTON 28716 704 627-2211

FREEMAN, PERCY LEE U 036
LAKE WYLIE, RT. #5, BOX 410-G L/RT
CLOVER, SC 29710 803 831-8598

FREEMAN, SANDRA 074
411 E. FOURTH ST. A S
GREENVILLE 27834 919 752-4337

FREEMAN, TYLER IRA IM /OM 079
511 BRIARWOOD DR. A AC
EDEN 27288 919 627-3081

FREEMAN, WILLIAM HARRISON GS 084
P. O. DRAWER 1398 AC
ALBEMARLE 28001 704 982-0161

FREEMAN, WILLIAM TOWNSEND AN 012
P. O. BOX 2245 A P * AC
MORGANTON 28655 704 438-2168

FREI, TIMOTHY EDWARD IM 008
AHOSKIE MEDICAL ASSOC., INC. A AC
PO BOX 340
AHOSKIE 27910 919 332-4155

FRENCH, THOMAS NASH U 083
LAURINBURG SURGICAL CLI. AC
PO BOX 1808
LAURINBURG 28352 919 276-3541

FRESCA, VICTOR ATTILIO GP /R 016
ROUTE #2 A AS
OAK BLUFF AT BRANDYWINE BAY
MOREHEAD CITY 28557 919 726-5587

FRICK, DONNA ELLIOTT P 032
109 CONNER DR.,BLDG #3,STE.203 AC
CHAPEL HILL 27514 919 933-5600

FRIED, FLOYD ALAN U 032
UNC, DEPT. OF SURGERY A * AC
CHAPEL HILL 27514 919 966-2571

FRIED, MICHAEL DAVID OBG 032
CONNER DRIVE PROF. BUILDING AC
CHAPEL HILL 27514 919 544-3591

FRIEDBERG, R. C. 032
1622 DELAWARE ST. A S
DURHAM 27705 919 286-3909

FRIEDFELD, STEFANIE ANN 034
103 PERSHING AVE. A S
WINSTON-SALEM 27103 919 722-9861

FRIEDLAND, BETH ROSENTHAL OPH /PA 092
10 PARK PLAZA,STE. 3 A AC
PO BOX 12765
RESEARCH TRIANGLE PK 27709 919 549-9135

FRIEDMAN, ALAN DAVID U 011
100 VICTORIA ROAD AC
ASHEVILLE 28801 704 254-8883

FRIEDMAN, ALLAN HOWARD NS 032
BOX 3807, DUMC A AC
DURHAM 27710 919 681-6421

FRIEDMAN, EDNA CHARNEY PD /AN 018
5161 COLLINS AVENUE, APT. 412 A L/RT
MIAMI BEACH, FL 33140 305 864-2880

FRIEDMAN, MITCHELL PUD /IM 032
DIV. OF PULMONARY DISEASES AC
UNC, DEPT. OF MEDICINE
CHAPEL HILL 27514 919 966-2532

FRIEDRICH, THOMAS CHARLES ORS 090
1104 OAK HILL DR. A AC
MONROE 28110 704 289-4595

FRITZ, RICHARD THOMAS R 064
PO BOX 88 P AC
RED OAK 27868 919 443-8083

FROEDGE, JERRY KEITH PD 018
1985 TATE BOULEVARD, S.E. A P AC
HICKORY 28602 704 322-2550

FROHBOSE, FREDERICK ALEXANDER 032
RT. #1, BOX 93-E A S
CHAPEL HILL 27514 919 929-3592

FROHBOSE, WILLIAM JOSEPH U 064
212 PIEDMONT AVENUE A L/RT
ROCKY MOUNT 27801 919 443-3136

FROMSON, GERALD ALAN IM 034
250 CHARLOIS BOULEVARD A AC
WINSTON-SALEM 27103 919 768-4730

FROTHINGHAM, THOMAS ELIOT PD /ID 032
BOX 3937, DUMC AC
DURHAM 27710 919 684-6870

FRUCHT, DAVID MARTIN 032
38-C DUKE MANOR APTS. A S
DURHAM 27705 919 286-4515

FRY, JOHN RUDOLPH OPH 011
20/20 PLAZA A P AC
90 ASHELAND AVENUE
ASHEVILLE 28801 704 253-5656

FRY, TERRY LENTZ OTO /HNS 032
UNC, 610 CLINICAL SCI. 229-H AC
CHAPEL HILL 27514 919 966-3341

FRYE, JOSEPH CRAIG R 060
3535 RANDOLPH ROAD, SUITE 102 A AC
CHARLOTTE 28211 704 365-0343

FU, HUNG-JEN GS /TS 042
1060 E. 10TH ST. AC
ROANOKE RAPIDS 27870 919 537-2153

FULBRIGHT, DEBORAH KAY PTH 033
1203 HOWARD AVE. A AC
TARBORO 27886 919 641-7155

FULCHER, WILLIAM L., III FP 074
PO BOX 657 A AC
SNOW HILL 28580 919 747-2921

FULGHUM, EDWIN MORTON, JR. OBG 049
PO BOX 1460 AC
STATESVILLE 28677 704 878-2011

FULGHUM, JAMES SPENCER, III NS 092
3009 NEW BERN AVE. A * AC
PO BOX 14027
RALEIGH 27610 919 832-4448

FULGHUM, MARY SUSAN KIRK GYN 09?
100 S. BOYLAN AVENUE A AC
RALEIGH 27603 919 832-552?

FULK, ROBERT VERNON, JR. OTO 06?
2311 DELANEY AVENUE AC
WILMINGTON 28403 919 762-875?

FULLER, CORODON S., JR. PH /GP 03?
RT. #1, BOX 61 A L/RT
MORAVIAN FALLS 28654 919 838-333?

FULTON, JAMES WALKER OBG 04?
400 N. ELM ST. A P AC
HIGH POINT 27260 919 889-435?

FUNCIK, THOMAS 03?
237-D JACKSON CIRCLE A S
ODUM VILLAGE
CHAPEL HILL 27514 919 933-673?

FUNDERBURK, AMON LEX IM /END 03?
3080 TRENWEST DR. * AC
WINSTON-SALEM 27103 919 768-237?

FURMAN, JEFFREY WILLIAM FP /HYP 03?
110 S. ESTES DR. AC
CHAPEL HILL 27514 919 967-829?

FURMAN, LOWELL BENJAMIN GS /CDS 09?
STATE FARM ROAD AC
BOONE 28607 704 264-234?

FURMAN, RICHARD WARREN TS /GS 09?
702 STATE FARM ROAD A AC
BOONE 28607 704 264-234?

FURR, CARL AUGUSTUS, JR. OBG 013
1054 BURRAGE ROAD, N. E. A AC
CONCORD 28025 704 788-4151

FURR, SARA MARCELLA 074
2521 MEMORIAL DR. A S
GREENVILLE 27834 919 756-9596

FURR, WILLIAM S. ORS 000
1871 WALL ST. #4 A R
MEMPHIS, TN 38134 901 387-7999

FUSSELL, FITZHUGH LEE, JR. GP 042
120 PROFESSIONAL DRIVE AC
ROANOKE RAPIDS 27870 919 537-9176

FUTRELL, THOMAS MILTON FP 029
201 W. HOLLY HILL ROAD A AC
THOMASVILLE 27360 919 475-9164

GABLE, RONALD SELMAN OPH 013
33 LAKE CONCORD ROAD, N.E. AC
CONCORD 28025 704 786-2015

GABLE, WALTER DELAY PTH /FOP 067
ONSLOW MEMORIAL HOSPITAL A AC
JACKSONVILLE 28540 919 353-7803

GABRIEL, DON ALEXANDER HEM /IM 032
UNC, DIV. OF HEM/ONCOLOGY AC
CHAPEL HILL 27514 919 966-4431

GABY, NANCY SUE P 034
622 S. SUNSET DR. A AC
WINSTON-SALEM 27103 919 748-4558

GACHET, FRED SMITH, JR. GYN 018
1205 N. CENTER STREET A AC
HICKORY 28601 704 328-2901

GADA, PRESTON HERBERT GS /TS 092
2800 BLUE RIDGE BOULEVARD A AC
RALEIGH 27607 919 781-7412

GADD, DUWAYNE DOUGLAS U 063
PINEHURST SURGICAL CLINIC A AC
PINEHURST 28374 919 295-0252

GADDY, GEORGE DOUGLAS OPH /OTO 001
1608 MEMORIAL DRIVE AC
BURLINGTON 27215 919 226-6321

GADDY, JOE ELLIS, JR. CD /IM 034
2810 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27104 919 768-0437

GADDY, ROBERT EDWIN, JR. IM /CD 092
3900 BROWNING PLACE A AC
RALEIGH 27609 919 781-9650

GAGE, LAWRENCE E. IM /CD 025
EASTERN CAROLINA IM, PA A AC
PO BOX 68
POLLOCKSVILLE 28573 919 224-4591

GAGE, LUCIUS GASTON, JR. A 060
1350 S. KINGS DRIVE A AC
CHARLOTTE 28207 704 372-8750

GAGLIANO, LOUIS ANTHONY P/GER 096
P. O. BOX 1975 A AC
GOLDSBORO 27530 919 734-8604

GAGLIANO, MARTHA ELLEN PD 032
827 LOUISE CIRCLE A R
DURHAM 27705 919 383-1882

GAINEY, JOHN WHITE, JR. GP 016
P. O. DRAWER 97 A AC
MOREHEAD CITY 28557 919 726-6143

GAITHER, JAMES COMER IM 018
ROUTE #2, BOX 199 A * AC
CONOVER 28658 704 322-1128

GAITHER, ROBERT HUTH OBG 084
1000 N. FIFTH STREET A P AC
ALBEMARLE 28001 704 982-8112

GALENTINE, PAUL GUY, III OPH 060
3535 RANDOLPH RD., STE. 202 A AC
CHARLOTTE 28211 704 364-8576

GALL, STANLEY ADOLPH, JR. 032
2907 MONROE AVE. A S
DURHAM 27707 919 489-3621

GALLAGHER, EDGAR GIVENS, JR. GS /TS 067
1013 SCHALL PLACE A AC
JACKSONVILLE 28540 919 353-7848

GALLAGHER, JOHN JOSEPH CD /IM 060
1960 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 373-1503

GALLAGHER, KATHLEEN A. DR 013
130 LAKE CONCORD RD. A AC
P. O. BOX 3345
CONCORD 28025 704 786-0214

GALLAGHER, TIMOTHY JOSEPH DR 011
P. O. BOX 2959 AC
103 DOCTOR'S BUILDING
ASHEVILLE 28802 704 255-4167

GALLANIS, CRAIG T. 034
1333 MADISON AVE. A S
WINSTON-SALEM 27103 919 722-6835

GALLEMORE, WARREN GHOLSON IM 040
P. O. BOX 5904 A * AC
HIGH POINT 27262 919 889-1191

GALLIS, HARRY ANTHONY ID /IM 032
BOX 3306, DUKE HOSPITAL * AC
DURHAM 27710 919 684-3279

GALLOWAY, JAMES BRUCE ORS 011
GALLOWAY DR. L/RT
ASHEVILLE 28803 704 274-2236

GALLOWAY, JAMES HERVEY FP 092
2617 ROYSTER ROAD L/RT
RALEIGH 27608 919 781-7547

GALLOWAY, JAMES MADISON, JR. FP 074
PO BOX 427 AC
AYDEN 28513 919 746-3116

GALLUP, KENNETH RAYNOR, JR. PUD /IM 034
2825 LYNDHURST AVE., STE. 101 A * AC
WINSTON-SALEM 27103 919 765-0888

GALPHIN, CLAUDE MABRY NEP 054
2905 COLONIAL CIRCLE A AC
KINSTON 28501 919 522-5725

GALUMBECK, MATTHEW ALAN 032
BOX 2883, DUMC A S
DURHAM 27710 919 286-1217

GALUSZKA, ALBIN ADOLPH U 007
604 E. 12TH STREET A AC
WASHINGTON 27889 919 946-0136

GAMBLE, ELIZABETH RHODES IM /GER 074
607 WINSTEAD RD. * AC
GREENVILLE 27834 919 756-7901

GAMBLE, JOHN REEVES, JR. GS /GP 055
P. O. BOX 250 * AC
LINCOLNTON 28092 704 735-3023

GAMBLE, WILLIAM HEDRICK CD /IM 041
920 CHERRY ST. A AC
GREENSBORO 27401 919 273-7900

GAMMON, WALTER RAY D 032
404 WHITEHEAD CIRCLE A AC
CHAPEL HILL 27514 919 966-3322

GANDHI, BRETT R. 032
PO BOX 672 S
CARRBORO 27510 919 563-4588

GANGOO, ABDUL RASHID ID 023
810 W. KING STREET AC
KINGS MOUNTAIN 28086 704 739-8946

GANICK, DOROTHY J. PD /PHO 074
ECU SCHOOL OF MEDICINE A AC
PCMH W288-PEDIATRICS
GREENVILLE 27834 919 757-4676

GANTT, CHARLES BERNARD, JR. DR 053
1606 LORD ASHLEY DR. A P AC
SANFORD 27330 919 774-4100

GARBER, BRIAN HOWARD GS 000
401 MULBERRY ST., SW, STE. 161 A R
LENOIR 28645 704 758-5501

GARBER, EDGAR CLYDE, JR. GYN 026
1641 OWEN DRIVE AC
FAYETTEVILLE 28304 919 484-6474

GARBER, RONALD LEWIS NEP /IM 041
208 W. WENDOVER AVENUE AC
GREENSBORO 27401 919 379-9708

GARCIA, GILBERT JOSEPH, JR. GS /VS 096
1008 E. ASH STREET AC
GOLDSBORO 27530 919 734-6414

GARDELLA, JOHN EUGENE PUD 060
125 BALDWIN AVE. A AC
CHARLOTTE 28204 704 374-1696

GARDNER, FRANCIS SIDNEY, JR. OBG 026
1219 WALTER REED ROAD A AC
FAYETTEVILLE 28304 919 323-2103

GARDNER, WILLIAM RONALD GS /CDS 018
420 N. CENTER STREET A AC
HICKORY 28601 704 327-9178

GARFUNKEL, JOSEPH MORRIS PD 032
229 HUNTINGTON DR. A AC
CHAPEL HILL 27514 919 966-5215

GARG, SHYAM LAL IM 065
HAMPSTEAD MEDICAL CTR. A AC
HAMPSTEAD 28443 919 270-2722

GARISON, GARY BROWN CD /IM 026
3423-A MELROSE ROAD A AC
FAYETTEVILLE 28304 919 484-6154

GARLAND, RUSSELL TYSON ORS 074
6824 SHILOH RIDGE LN. A R
CHARLOTTE 28212 919 756-4558

GARLAND, WESLEY SCOTT OM 034
R. J. REYNOLDS, MEDICAL DEPT. A AC
WINSTON-SALEM 27102 919 777-2027

GARMON-BROWN, OPHELIA EUGENIA FP 060
402 E. SUGARCREEK RD. AC
CHARLOTTE 28213 704 535-8245

GARNER, JO FRANCIS, II D 095
204 DOCTOR'S DR. P AC
BOONE 28607 704 264-4553

GARRABRANT, EDGAR CORNELIUS OTO 092
3010 ANDERSON DR. A * AC
PO BOX 18946
RALEIGH 27619 919 787-7171

GARRARD, ROBERT LEMLEY P/N 041
1000 RIDGECREST DR. A * L/RT
GREENSBORO 27410 919 292-0175

GARRETT, CATHERINE GAELYN 032
42-J STRATFORD HILLS APTS. A S
CHAPEL HILL 27514 919 968-8124

GARRETT, CHARLES LEROY, JR. PTH /FOP 067
ONSLOW MEMORIAL HOSPITAL A P * AC
JACKSONVILLE 28540 919 353-3498

GARRETT, JOHN BOSTIAN, JR. U 036
631 COX ROAD A AC
GASTONIA 28054 704 864-7764

GARRETT, JOHN BOSTIAN, SR. FP 034
2926 MAIN ST. A AC
PO BOX 220
WALKERTOWN 27051 919 595-2751

GARRETT, NORMAN HESSON, JR. IM /END 041
1038 PROFESSIONAL VILLAGE A AC
GREENSBORO 27401 919 378-9131

GARRETT, WILLIAM ELWOOD, JR. ORS 032
BOX 3435, DUMC A AC
DURHAM 27710 919 684-6658

GARRISON, RALPH BERNARD FP 077
P. O. BOX 1169 A * L/RT
HAMLET 28345 919 582-2140

GARRISON, ROBERT LEE GS 060
225 HAWTHORNE LANE A AC
CHARLOTTE 28204 704 377-1349

GARRISON, ROBERT WALTER U 016
15 MEDICAL PARK AC
MOREHEAD CITY 28557 919 247-2101

GARROU, BENJAMIN WESLEY, SR. IM /ON 012
560 MALCOLM BLVD. AC
RUTHERFORD COLLEGE 28671 704 874-0522

GARSIDE, WILLIAM BLAKE PS 092
1112 DRESSER COURT A AC
RALEIGH 27609 919 872-2616

GARTRELL, DOUGLAS MERVYN 032
714 PARK RIDGE RD. APT. B-7 A S
DURHAM 27713 919 489-0477

GARVEY, ALFRED HAMILTON U 041
200 E. NORTHWOOD ST., STE. 302 A AC
GREENSBORO 27401 919 275-6115

GASKIN, ERNEST REED OPH 060
100 QUEENS RD. A P AC
CHARLOTTE 28204 704 332-1156

GASKIN, JOHN STOVER, JR. FP 084
206 W. MAIN ST. A AC
LOCUST 28097 704 983-3121

GASKIN, LEWIS JAMES AN 092
P. O. BOX 18139 A * AC
RALEIGH 27619 919 781-7420

GASKIN, LEWIS REED OPH 060
100 QUEENS RD. A P AC
CHARLOTTE 28204 704 332-1156

GASKINS, RAYMOND ALBERT, JR. FP /OM 026
126 THORNCLIFF AC
FAYETTEVILLE 28303 919 323-3183

GASQUE, BOYD BENNETT, JR. DR 078
P. O. DRAWER 1527 A AC
LUMBERTON 28359 919 738-8222

GASQUE, MAC ROY OM /PH 088
5 FORTUNE COVE RD. A L
BREVARD 28712 704 884-2503

GATES, LAWRENCE KEITH, JR. IM 032
1710 VISTA A R
DURHAM 27701 919 471-0705

GATLIN, KEITH A., JR. CD 040
624 QUAKER LN., STE. 103-C A P AC
HIGH POINT 27262 919 885-6168

GATLING, H. BEE PH 073
ROUTE #1, BOX 28 AC
MILTON 27305 919 234-8656

GAUL, JOHN STUART, JR. HS 060
2600 E. 7TH ST. AC
CHARLOTTE 28204 704 372-9820

GAUNT, GEORGE LOREN, JR. PTH 060
2034 RANDOLPH RD. A AC
CHARLOTTE 28207 704 372-4600

GAVIGAN, JAMES RICHARD U 074
2 DOCTOR'S PARK A * AC
GREENVILLE 27834 919 752-5077

GAVIGAN, THOMAS JOSEPH GE 060
125 BALDWIN AVENUE A AC
CHARLOTTE 28204 704 338-6300

GAWOROWSKI, JOANNA MARIA P. P 011
HIGHLAND HOSPITAL A AC
P. O. BOX 1101
ASHEVILLE 28802 704 254-3201

GAY, CHARLES HOUSTON PD 060
2320 QUEENS ROAD, EAST A L/RT
CHARLOTTE 28207 704 333-7479

GAY, ROBERT MILTON PTH /CLP 041
1200 N. ELM STREET A P AC
GREENSBORO 27401 919 379-4074

GAYLORD, GREGG M. DR 074
115 CARDINAL DR. A AC
GREENVILLE 27858 919 752-5000

GAZAK, JOHN MICHAEL U 060
1900 RANDOLPH RD. STE. 816 A AC
CHARLOTTE 28207 704 334-3033

GEARING, FRANK WILSON, III PD 098
2112 W. NASH ST. A * AC
WILSON 27893 919 237-2151

GEARY, LEON WALLACE PUD /A 032
2609 N. DUKE ST., STE. 504 A P * AC
DURHAM 27704 919 471-4466

GEBEL, EMILE LOUIS OPH 023
1413 N. LAFAYETTE STREET A AC
SHELBY 28150 704 482-6767

GEDDIE, KENNETH BAXTER PD 040
PO BOX 2007 A * L/RT
HIGH POINT 27261 919 882-4171

GEER-BRENTON, LINDA LOU DR 096
2700 MEDICAL OFFICE PLACE A AC
GOLDSBORO 27530 919 734-1866

GEGICK, CHARLES GEORGE END /IM 041
1022 PROFESSIONAL VILLAGE AC
GREENSBORO 27401 919 378-1143

GEHWEILER, JOHN ANDREW, JR. R 044
P. O. BOX 231 * AC
WAYNESVILLE 28786 704 452-1517

GELBURD, GREGORY STUART FP 008
401 STERLING ST. AC
WINDSOR 27983 919 794-3043

GELFAND, DAVID WILLIAM R 034
853 BUTTONWOOD DRIVE AC
WINSTON-SALEM 27104 919 748-2481

GELOT, RAGHUVIR BAXIRAM OTO 008
RT. #1, BOX 6-B AC
AHOSKIE 27910 919 332-5917

GENIEC, PAUL OTO /PS 040
P. O. BOX 5666 AC
HIGH POINT 27262 919 885-0071

GENTLING, PETER ALLEN GS 011
5-D DOCTOR'S PARK A AC
ASHEVILLE 28801 704 252-2457

GENTRY, JOHN BILLY PTH 023
307 S. POSTON STREET A AC
SHELBY 28150 704 482-0241

GEORGE, LYNN DARCY AN /FP 095
PO BOX 304 A P AC
BLOWING ROCK 28605 704 295-3633

GEORGIADE, GREGORY S. PS /GS 032
BOX 3960, DUMC A AC
DURHAM 27710 919 684-3039

GEORGIADE, NICHOLAS GEORGE PS 032
BOX 3098, DUMC A * AC
DURHAM 27710 919 684-2854

GERATZ, JOACHIM DIETER PTH 032
UNC,DEPT. OF PTH, BBB 228-H A AC
CHAPEL HILL 27514 919 966-4294

GERBE, RONALD WILLIAM OTO /HNS 032
109 CONNER DR. A P * AC
CHAPEL HILL 27514 919 967-5599

GERDES, JOSEPH JOHN DR 013
1648 PROVIDENCE RD. A AC
CHARLOTTE 28207 704 786-0214

GEROCK, HENRY FP 067
200 DOCTOR'S DRIVE, SUITE M AC
JACKSONVILLE 28540 919 353-7600

GERRARD, EDWARD ROLLAND U 018
1202 N. CENTER STREET P * AC
HICKORY 28601 704 322-4340

GESING, BERNARD FRANCIS FP 060
10724 PARK ROAD A AC
CHARLOTTE 28210 704 542-6577

GESZLER, GERIANNE OBG 032
5238 N. WILLOWHAVEN DR. A R
DURHAM 27712 919 489-6008

GETTINGER, GLEN SCOTT AN /IM 011
211 RIVA RIDGE DR. A AC
FAIRVIEW 28730 704 254-1969

GETZ, DONALD DAVID ORS 065
1616 MEDICAL CENTER DRIVE A AC
WILMINGTON 28401 919 762-2655

GIANTURCO, DANIEL THOMAS P 032
2925 FRIENDSHIP ROAD AC
DURHAM 27705 919 684-4335

GIBBS, STUART WYNN R 036
2647 ARMSTRONG COURT A L/RT
GASTONIA 28054 704 865-5883

GIBLIN, JOHN MARTIN 074
F-2 DOCTOR'S PARK APTS. A S
GREENVILLE 27834 919 752-8619

GIBLIN, THOMAS RICHARD PS 060
1900 RANDOLPH ROAD, #300 A P * AC
CHARLOTTE 28207 704 332-4161

GIBSON, JACKSON V. IM 062
423 WOOD STREET AC
TROY 27371 919 572-3779

GIBSON, JAMES BRUCE 032
1500 DUKE UNIV.RD., APT. A-2-A A S
DURHAM 27701

GIBSON, JAMES FRANKLIN GS /GP 053
1916 WILKINS DRIVE A P * AC
SANFORD 27330 919 776-5191

GIBSON, JOHN MCNEILL IM 060
212 S. TRYON ST., STE. 1500 A * AC
CHARLOTTE 28201 704 333-6544

GIBSON, ROBERT WYLIE P/N 034
190 CHARLOIS BOULEVARD A AC
WINSTON-SALEM 27103 919 768-6930

GIFFORD, ALLEN LOTHROP 032
615-A HIBBARD DR. A S
CHAPEL HILL 27514 919 933-5893

GILBERT, CHARLES FRANKLIN PTH 074
PITT CO. MEM. HOSP.-LAB. MED. A AC
GREENVILLE 27834 919 551-4495

GILBERT, DAVID BRANSON CD /IM 026
1756 METROMEDICAL DRIVE A AC
FAYETTEVILLE 28304 919 323-1322

GILBERT, GEORGE GAYLORD U 011
6 CRANBOURN CT. A L/RT
GREENSBORO 27405 919 282-0168

GILBERT, HENRY TUCKER DR 018
P. O. BOX 308 A AC
HICKORY 28601 704 322-2644

GILBERT, MICHAEL T. OPH 070
1134 N. ROAD STREET A AC
ELIZABETH CITY 27909 919 338-0148

GILBERT, PAUL PRESSLY ORS 060
2300-B RANDOLPH ROAD AC
CHARLOTTE 28207 704 375-5955

GILBERT, RICHARD LESLIE, JR. 041
1204 ONSLOW DR. A R
GREENSBORO 27408 919 758-1862

GILBERT, STANLEY KEITH, JR. ORS /HS 026
1300 MEDICAL DRIVE A AC
FAYETTEVILLE 28304 919 484-2171

GILES, JOHN HENRY GS 012
350 E. PARKER ROAD AC
MORGANTON 28655 704 437-7388

GILGOR, ROBERT SAMUEL D 032
891 WILLOW DRIVE A * AC
CHAPEL HILL 27514 919 942-3106

GILL, KENNETH ARNOLD, JR. D/DMP 040
624 QUAKER LN,STE,302,BLDG B A * AC
HIGH POINT 27262 919 887-3195

GILL, LOWELL HARLEY ORS 060
1822 BRUNSWICK AVENUE A AC
CHARLOTTE 28207 704 373-0544

GILLEN, HOWARD WILLIAM N 065
1301 CYPRESS GROVE DR. A P * AC
WILMINGTON 28401 919 762-8501

GILLIAM, CHARLES FRANKLIN PD 029
200 ARTHUR DRIVE A AC
THOMASVILLE 27360 919 475-2348

GILLIAM, GEORGIA LEILA IM 050
48 HOSPITAL RD. A AC
SYLVA MEDICAL CTR.
SYLVA 28779 919 286-0411

GILLIAM, JOHN HUGH, III GE /IM 034
300 S. HAWTHORNE ROAD A AC
BOWMAN GRAY SCH. OF MED
WINSTON-SALEM 27103 919 748-4601

GILLIATT, CECIL LEE, JR., PD 023
101 GROVER STREET A AC
SHELBY 28150 704 482-1435

GILLIGAN, KENDALL ALLEN EM 044
109 ROBIN LANE AC
WAYNESVILLE 28786 704 456-6021

GILMER, PETER WINSTON ORS 032
2609 N. DUKE ST. A AC
DURHAM 27704 919 471-8431

GILMORE, BROOKS WEBSTER IM 041
342 N. ELM STREET A P AC
GREENSBORO 27401 919 274-6373

GILMORE, SAMUEL JOSEPH OBG 054
KINSTON CLINIC, NORTH, STE. E A AC
KINSTON 28501 919 522-4333

GILMOUR, MONROE TAYLOR IM 060
1300 BAXTER ST., STE. 163 A * L/RT
CHARLOTTE 28204 704 375-0287

GIMESH, JOHN SIGMUND PD 026
3415-C MELROSE ROAD A AC
FAYETTEVILLE 28304 919 484-8163

GINN, FRED LEGRAY PTH 026
CAPE FEAR VALLEY HOSPITAL A AC
FAYETTEVILLE 28302 919 323-6149

GINN, THOMAS MOSS IM 080
319 MOCKSVILLE AVE. A AC
SALISBURY 28144 704 637-3538

GINN, WILLIAM M. , JR. CD /IM 092
2800 BLUE RIDGE, STE. 205 AC
RALEIGH 27607 919 782-0414

GIOANNINI-BROWN, CAROL ANN PTH 032
5009 N. GLEN DRIVE A AC
RALEIGH 27609 919 470-4000

GIOFFRE, RONALD ANTHONY ORS 041
315 W. WENDOVER AVENUE A AC
GREENSBORO 27408 919 275-0724

GIRAGOS, JOHN G. P/PYA 032
20 W. COLONY PLACE APT. 260 A AC
DURHAM 27705 919 493-1810

GISH, LARRY MORGAN IM 080
611 MOCKSVILLE AVENUE A AC
SALISBURY 28144 704 633-7220

GITELMAN, HILLEL JONATHAN NEP /IM 032
N. C. MEMORIAL HOSPITAL AC
CHAPEL HILL 27514 919 966-2561

GITT, KENNETH DARYL OBG 086
708 S. SOUTH STREET AC
MOUNT AIRY 27030 919 786-4522

GIVENS, DAVIDSON HOWARD CD /IM 034
1399 WESTGATE CENTER DR. P AC
WINSTON-SALEM 27103 919 768-4261

GIVENS, GEORGE HOWARD, JR. FP 002
P. O. BOX 308 A AC
TAYLORSVILLE 28681 704 632-2270

GLASCO, THOMAS ROBERT GP 076
114 N. FAYETTEVILLE STREET AC
LIBERTY 27298 919 622-2277

GLASGOW, DOUGLAS MCKAY IM /GER 060
2000 WENDOVER RD. A L
CHARLOTTE 28211 704 375-5674

GLASS, FREDERICK WILLIAM EM /GS 034
BOWMAN GRAY SCH. OF MED. A * AC
WINSTON-SALEM 27103 919 748-4626

GLASS, PETER STANLEY A. AN 032
BOX 3094, DUMC A AC
DURHAM 27710 919 684-5045

GLASSMAN, STUART LEWIS GS /VS 045
502 7TH AVE. WEST AC
HENDERSONVILLE 28739 704 692-1191

GLASSON, JOHN ORS 032
2609 N. DUKE ST. A P * AC
DURHAM 27704 919 471-8431

GLATZ, FRANK ROBERT, JR. OTO 034
3303 HEALY DR., STE. A A P AC
WINSTON-SALEM 27103 919 768-4866

GLEATON, HUGH ELBERT, JR. OPH 045
643 FIFTH AVENUE, WEST A AC
HENDERSONVILLE 28739 704 692-9146

GLEN, DULANEY IM 034
250 CHARLOIS BOULEVARD A AC
WINSTON-SALEM 27103 919 768-4730

GLENN, CHANNING GP 009
P. O. BOX 278 A L/RT
ELIZABETHTOWN 28337 919 862-3721

GLENN, DAVID LOCKE, JR. GS 045
561 FLEMING ST. AC
HENDERSONVILLE 28739 704 693-1778

GLENN, DOROTHY NORMAN OBG 036
ISLAMABAD-ID,DEPT. OF STATE A L
WASHINGTON, DC 20523 703 235-9656

GLENN, JOHN CAPERS, JR. R/NM 062
514 WOOD STREET A AC
TROY 27371 919 572-3475

GLENN, SHELLEY FAYE 074
RT. #1, BOX 69-F S
WINTERVILLE 28590

GLINSKI, RONALD PETER U/PTH 024
ROUTE #1, BOX 46A A AC
WHITEVILLE 28472 919 642-5832

GLOD, ALBERT PAUL GS /TS 034
152 MUIRFIELD DR. L/RT
WINSTON-SALEM 27104 919 725-3702

GLOVER, JAMES BUNYAN OBG 098
CAROLINA CLINIC A AC
WILSON 27893 919 291-9010

GLOVER, JOHN SNOW OBG 060
1851 E. THIRD STREET AC
CHARLOTTE 28204 704 332-8103

GLUGOVER, DONALD BENJAMIN ORS 012
76 MONTANYA VIEW A AC
VALDESE 28690 704 874-3379

GO, JOAN MAYCHU 032
4 RIVER BIRCH RD., APT. K A S
DURHAM 27705 919 383-7019

GOBEL, WILLIAM KENNETH FP 076
P. O. BOX 1886 A AC
ASHEBORO 27203 919 672-0090

GOCKERMAN, JON PAUL ON /HEM 032
DUKE COMP. CARE CTR. A AC
P. O. BOX 3877
DURHAM 27710 919 684-6283

GOCO, ISAIAS ISMAEL GS /CDS 034
1901 S.HAWTHORNE RD.,STE.220 AC
WINSTON-SALEM 27103 919 768-4710

GODBOLD, RONALD LEE D 011
281 MCDOWELL STREET A AC
ASHEVILLE 28803 704 252-5679

GODEHN, DONALD JOHN, JR., D 045
506 PARK HILL CT., STE. #1 A * AC
HENDERSONVILLE 28739 704 693-0275

ODWIN, HAROLD LACY IM 026
1601-B OWEN DRIVE A * AC
FAYETTEVILLE 28304 919 323-1152

ODWIN, HERMAN ALLEN, JR. HEM /IM 060
2711 RANDOLPH RD. #100 AC
CHARLOTTE 28207 704 373-0700

ODWIN, WINSTON YUVAWN, JR. GS 060
2300 RANDOLPH RD. A P AC
CHARLOTTE 28207 704 376-0327

OETZL, UGO N/P 032
1830 HILLANDALE ROAD AC
DURHAM 27705 919 383-5531

OFF, DAVID ALBERT IM /PD 092
7202 FALLS OF NEUSE RD. A AC
RALEIGH 27615 919 848-9911

OFF, JACOB BENJ. M., JR. U 049
P. O. BOX 1727 AC
STATESVILLE 28677 704 873-3766

OINS, JAMES ROBERT OBG 018
210 13TH AVENUE PLACE, NW AC
HICKORY 28601 704 322-3017

OLBY, MARY BLUE IM 032
904 BROAD STREET A AC
DURHAM 27705 919 286-4900

OLD, BENJAMIN MILLER OBG 064
1730 LAFAYETTE CIRCLE A RT
ROCKY MOUNT 27801 919 442-4756

OLDBERG, JOEL STEVEN AN 032
RT. #1, BOX 2602 A AC
HILLSBOROUGH 27278 919 443-2125

OLDBERG, MARC ANDREW 032
BOX 2860, DUMC A S
DURHAM 27710 919 383-8675

OLDBERG, TREVOR IAN OTO 060
1600 E. THIRD STREET A P AC
CHARLOTTE 28204 704 372-3300

OLDMAN, ALAN LAWRENCE PD 092
2800 BLUE RIDGE BLVD.,STE. 501 AC
RALEIGH 27607 919 781-7490

OLDMAN, JAMES OSWALD, JR. EM 053
PO BOX 1597 A AC
SANFORD 27331 919 774-2260

OLDNER, JOSEPH LEONARD ORS /HS 032
BOX 3706, DUMC A AC
DURHAM 27710 919 684-2628

OLDNER, RICHARD DOUGLAS ORS /HS 032
BOX 3480, DUMC A AC
DURHAM 27710 919 684-6461

OLDSTON, WILLIAM ROBERT OBG 092
2800 BLUE RIDGE BLVD.,STE.207 AC
RALEIGH 27607 919 781-5510

OLEMBE, BARRY LOUIS PD /PHO 060
1350 S. KINGS DRIVE AC
CHARLOTTE 28207 704 372-8750

OLEY, ALEXANDER FAIRLEY IM 001
1509 VAUGHN ROAD AC
BURLINGTON 27215 919 228-6000

OLLBERG, HAROLD RONALD P/GER 011
445 BILTMORE CENTER, STE. 304 * AC
ASHEVILLE 28801 704 252-1421

OMEZ, RAUL FERNANDO P 026
P. O. BOX 40237 AC
FAYETTEVILLE 28304 919 484-9634

ONZALEZ, JORGE JOSE IM /END 065
2131 S. 17TH STREET AC
WILMINGTON 28401 919 343-0161

OODE, DAVID JOHN P 034
BOWMAN GRAY, DEPT. OF PSY. AC
WINSTON-SALEM 27103 919 748-4142

OODE, THOMAS VANCE, III GS 049
P. O. BOX 1068 A AC
STATESVILLE 28677 704 873-7253

OODEN, MICHAEL DEAN OBG 096
2400 WAYNE MEM. DR., STE. K A AC
GOLDSBORO 27530 919 734-3344

OODFIELD, PETER CD 045
510 7TH AVENUE, WEST A AC
HENDERSONVILLE 28739 704 692-2231

OODHALL-GUNN, PATRICIA AN 025
PO BOX 983 A AC
NEW BERN 28560 919 633-6117

OODIN, THOMAS ELLIOTT,III AN 018
610 FAIRGROVE CHURCH RD. A P AC
HICKORY 28610 704 322-0870

OODMAN, BENJAMIN WARREN FP 018
24 SECOND AVENUE, N. E. A * AC
HICKORY 28601 704 328-2231

GOODMAN, DONALD BRUCE, JR. FP 060
6708 ALBEMARLE RD. AC
CHARLOTTE 28212 704 536-4903

GOODNO, CHARLES CHRISTIAN FP 051
PO BOX 1007 R
PRINCETON 27569 919 936-2889

GOODSON, JOHN PHILLIP GS 092
3814 BROWNING PLACE A AC
RALEIGH 27609 919 781-0710

GOODSON, PHILLIP RICHARD OBG 049
1308 DAVIE AVENUE P AC
STATESVILLE 28677 704 873-1436

GOODWIN, BONNIE JEANNE IM /ON 025
PO BOX 68 A AC
POLLOCKSVILLE 28573 919 633-1010

GOODWIN, JAMES OSCAR OBG 091
MEDICAL ARTS BUILDING A AC
RUIN CREEK ROAD
HENDERSON 27536 919 492-8576

GOODWIN, JOEL SEXTON OBG 080
315 MOCKSVILLE AVENUE A AC
SALISBURY 28144 704 636-9270

GOODWIN, MARY BURCH PD 067
12 OFFICE PARK DR. AC
JACKSONVILLE 28540 919 353-6262

GORDON, JOSEPH GROVER R 034
BOWMAN GRAY SCH. OF MED. A RT
WINSTON-SALEM 27103 919 748-4316

GOSS, FREDERICK UHL IM 080
611 MOCKSVILLE AVE. A AC
SALISBURY 28144 704 633-7220

GOSSETT, ROBERT PETER U 023
1001 N. WASHINGTON ST. A AC
SHELBY 28150 919 482-2011

GOTTLIEB, JUSTIN L. 032
3222 COACHMAN'S WAY A S
DURHAM 27705 919 489-7372

GOTTLIEB, LOUIS NATHAN OPH 034
631 COLISEUM DRIVE A AC
WINSTON-SALEM 27106 919 723-1041

GOTTOVI, DANIEL PUD /IM 065
1202 MEDICAL CENTER DRIVE A * AC
WILMINGTON 28401 919 341-3300

GOTTSCHALK, BERNARD J. HEM /ON 065
1202 MEDICAL CENTER DR. A AC
WILMINGTON 28401 919 762-2990

GOTTSCHALK, CARL WILLIAM IM /NEP 032
N. C. MEMORIAL HOSPITAL AC
CHAPEL HILL 27514 919 966-4567

GOTTSCHLICH, GREGORY M. IM /A 034
6705 GREENFOREST LN. A R
PFAFFTOWN 27040 919 748-2511

GOTTSEGEN, DANIEL LEO OBG 041
200 E. NORTHWOOD ST., STE. 216 A AC
GREENSBORO 27401 919 275-5391

GOUBRAN, MICHEL OBG /END 039
104 BELLE ST. A P AC
OXFORD 27565 919 693-2131

GOUGH, WILLIAM, III RHU /IM 011
445 BILTMORE CENTER, STE. 306 AC
ASHEVILLE 28801 704 258-9533

GOULSON, DAN T. 032
C-1 FENWAY COURT A S
CARRBORO 27510 919 920-2128

GOWEN, CLARENCE WM.,JR. PD /NPM 074
ECU SCHOOL OF MEDICINE AC
GREENVILLE 27834 919 551-4812

GOWEN, MARILYN ALLEY PD /PDA 074
ECU, DEPT. OF PEDIATRICS A AC
GREENVILLE 27858 919 551-4772

GOWER, DAVID JOHN NS 034
N. C. BAPTIST HOSPITAL R
WINSTON-SALEM 27103 919 748-4038

GOWER, VERLIA COLE 034
918 MADISON AVENUE A S
WINSTON-SALEM 27103 919 723-8602

GRADY, RICHARD DWIGHT OTO /HNS 025
P. O. BOX 2406 A AC
707 PROFESSIONAL DR.
NEW BERN 28560 919 638-2666

GRAEUB, CHARLES M., JR. EM 040
2021 LA DORA DR. A AC
HIGH POINT 27260 919 884-6009

GRAFF, LOUIS GEORGE AN 026
2306 ROLLING HILL A P AC
FAYETTEVILLE 28304 919 323-6061

GRAHAM, CHARLES PATTISON GS 065
201 FOREST HILLS DRIVE A L/RT
WILMINGTON 28403 919 762-0385

GRAHAM, DAVID ERIC GP /AM 060
P. O. BOX 459 AC
201 SADIE DR.
MATTHEWS 28105 704 847-8664

GRAHAM, FREDERICK WILLIAM, JR. FP 076
375 SUNSET AVE. A AC
ASHEBORO 27203 919 625-4215

GRAHAM, GLORIA FLIPPIN D 098
702 BROAD STREET A * AC
WILSON 27893 919 291-5600

GRAHAM, JOHN BORDEN PTH /HEM 032
UNC SCHOOL OF MEDICINE L/RT
CHAPEL HILL 27514 919 966-4318

GRAHAM, JOHN CALHOUN, JR. DR /NM 070
106 S. WATER ST. A AC
PO BOX 250
ELIZABETH CITY 27909 919 335-2652

GRAHAM, WALTER RALEIGH OPH 060
743 HEMPSTEAD PLACE A L/RT
CHARLOTTE 28207 704 334-6014

GRAHAM, WALTER RALEIGH, JR. D 060
RIVERSIDE CLINIC A AC
2005 RIVERSIDE AVE.
JACKSONVILLE, FL 32204

GRAHAM, WILLIAM ALEXANDER OBG 032
2247 CRANFORD ROAD A L/RT
DURHAM 27706 919 489-5214

GRAINGER, WADE KENTON FP 011
PO BOX 696 A AC
SKYLAND 28776 704 684-7801

GRANGER, RONALD EUGENE OBG 032
1821 GREEN STREET A AC
DURHAM 27705 919 286-1250

GRANOVETTER, DAVID ALAN RHU /AI 092
3831 MERTON DRIVE A AC
RALEIGH 27609 919 781-9633

GRANT, GEORGE REDD, JR. IM 092
3101 ESSEX CIRCLE A AC
RALEIGH 27608 919 782-2631

GRANT, HUGH JUDD, JR. OBG 092
100 S. BOYLAN AVENUE A AC
RALEIGH 27603 919 832-5529

GRANT, JOHN PALMER GS /NTR 032
BOX 3105, DUMC AC
DURHAM 27710 919 684-3314

GRANT, JOSEPH DURHAM ORS 096
2701 MEDICAL OFFICE PLACE A AC
GOLDSBORO 27530 919 736-2157

GRANT, TERRY ALAN 074
2905-A CEDAR CREEK RD. A S
GREENVILLE 27834 919 758-6820

GRANT, WILLIS JACKSON, III P 034
250 CHARLOIS BLVD. A AC
WINSTON-SALEM 27103 919 768-4730

GRAVATT, BENJAMIN THOMAS AN 011
202 DOCTOR'S BUILDING A AC
ASHEVILLE 28801 704 254-1969

GRAVES, JOHN W. NEP /IM 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4593

GRAVLEE, GLENN PAGE AN 034
1205 CLOVER STREET A * AC
WINSTON-SALEM 27101 919 748-4498

GRAY, CHARMAINE D. PD 074
PO BOX 238 AC
HOOKERTOWN 28538 919 747-2817

GRAY, CRAIGAN LUTHER OBG 011
143 ASHELAND AVENUE A AC
ASHEVILLE 28801 704 258-9191

GRAY, CYRUS LEIGHTON R 040
P. O. BOX 5007 A L
HIGH POINT 27262 919 887-1955

GRAY, DAVID M. EM 060
732 E. PARK AVENUE AC
CHARLOTTE 28203 704 372-7544

GRAY, MARY JANE OBG 032
UNC STUDENT HEALTH SERVICE AC
CHAPEL HILL 27514 919 966-2281

GRAY, PATRICK HAMPTON OBG 074
302 GLASGOW LANE A R
GREENVILLE 27834 919 551-4100

GRAY, ROBERTA SKINNER PNP 074
ECU DEPT. OF PEDIATRICS A AC
GREENVILLE 27834 919 551-4963

GRAY, TIMOTHY KENNEY END /IM 032
UNC, DEPT. OF MEDICINE AC
CHAPEL HILL 27514 919 966-3336

GREASON, FRANCES CRAWFORD 074
106 SCALES PL. M-2 A S
GREENVILLE 27834

GRECO, PETER PAUL D 025
P. O. BOX 2908 AC
1914 NEUSE BLVD.
NEW BERN 28561 919 633-1817

GREEN, ARTHUR GERRISH, III IM /FP 041
1511 WESTOVER TERRACE AC
GREENSBORO 27408 919 373-1184

GREEN, EDWIN JAY IM 041
1317 N. ELM ST. STE. #2 AC
GREENSBORO 27401 919 373-1676

GREEN, FRANCIS WEATHERLY IM 084
1009 N. 6TH ST. A P AC
ALBEMARLE 28001 704 982-8169

GREEN, HAROLD D. CD 034
3619 DEWSBURY ROAD A L/RT
WINSTON-SALEM 27104 919 765-5078

GREEN, JAMES PRESTON FP 091
176 BECKFORD DRIVE A AC
HENDERSON 27536 919 492-2161

GREEN, JULIUS ALPHEUS, JR. R 092
P. O. BOX 19366 A AC
RALEIGH 27609 919 787-8221

GREEN, KENNETH ERIC GP 018
4 BRENTWOOD LANE, SE AC
HICKORY 28602 704 294-1116

GREEN, PAUL, JR. GYN 080
315 G MOCKSVILLE AVE. A AC
SALISBURY 28144 704 636-9270

GREEN, RAY LYMAN OBG 049
1216 DAVIE AVE. AC
STATESVILLE 28677 704 873-1436

GREEN, ROBERT LEE, JR. P/N 032
FALSTAFF ROAD AC
HOLLY HILL HOSPITAL
RALEIGH 27610 919 755-1840

GREEN, ROBERT LORENZA R 034
3155 MAPLEWOOD AVENUE A * AC
WINSTON-SALEM 27103 919 773-3873

GREENBERG, WILLIAM ROGER AN 090
P. O. BOX 2188 A P AC
MONROE 28110 704 289-3247

GREENE, ELEANOR ELAINE W. OBG 040
701 SHAMROCK ROAD A AC
HIGH POINT 27260 919 885-0149

GREENE, JOSEPH ELMO GP /OM 090
303 OLD HIGHWAY 74 A AC
MARSHVILLE 28103 704 624-2125

GREENE, PHILLIP GP 090
603 E. ROOSEVELT BLVD. A P AC
MONROE 28110 704 283-8193

GREENE, RALPH LEON, JR. IM 060
3535 RANDOLPH ROAD A * AC
CHARLOTTE 28211 704 365-0760

GREENE, ROBERT HADLEY FP 060
2001 OAKLAWN AVENUE A RT
CHARLOTTE 28216 704 332-7506

GREENE, WALTER BLAIR ORS 032
UNC, 237 BURNETT-WOMACK A AC
CHAPEL HILL 27514 919 966-3691

GREENFIELD, JOS. C., JR. IM /CD 032
BOX 3246, DUMC AC
DURHAM 27710 919 681-6147

GREENHOOT, JERRY HARVEY NS 060
1010 EDGEHILL ROAD NORTH A AC
CHARLOTTE 28207 704 376-1605

GREENMAN, MAXWELL OPH 060
309 S. LAUREL AVENUE A AC
CHARLOTTE 28207 704 372-4380

GREENWOOD, JAMES BROOKS, JR. FP 060
PO BOX 18248 A P * AC
4101 CENTRAL AVE.
CHARLOTTE 28218 704 537-0020

GREENWOOD, ROBERT SAMUEL CHN /PD 032
UNC, 751 CLINICAL SCI. 229-H A AC
CHAPEL HILL 27514 919 966-2528

GREER, THOMAS BYWATER OBG 092
P. O. BOX 18568 A AC
RALEIGH 27619 919 782-1273

GREGANTI, MAC ANDREW IM 032
UNC, DEPT. OF IM AC
CHAPEL HILL 27514 919 966-2276

GREGG, CHARLES ELI AN 034
108 BALLY HO DR. A P AC
LEWISVILLE 27023 919 748-4791

GREGORY, GLADYS REGINA 074
L-13 DOCTORS PARK APTS. A S
GREENVILLE 27834 919 758-5954

GREGORY, HUGH STANLEY OTO 067
NORTHWOODS PROF. PLZ. A AC
JACKSONVILLE 28540 919 455-4847

GREGORY, JERRY GLEN P 074
ECU, DEPT. OF PSYCHIATRY A AC
GREENVILLE 27858 919 551-2660

GREGORY, WILLIAM LYON GP 036
2405 LOWELL ROAD AC
GASTONIA 28052 704 865-8134

GREIG, JOHN HAMILTON AN 060
4401 COLWICK ROAD #702 AC
CHARLOTTE 28211 704 366-9408

GREISS, FRANK CHRISTIAN, JR. OBG 034
BOWMAN GRAY SCH. OF MED. A AC
WINSTON-SALEM 27103 919 748-4039

GREVIOUS, STEPHEN SCOTT 034
1641-P NORTHWEST BLVD. A S
WINSTON-SALEM 27104 919 724-4541

GREWAL, SATPAL KAUR TR 025
CRAVEN COUNTY HOSPITAL AC
PO BOX 5117
NEW BERN 28560 919 633-8730

GRICE, ORMOND DREW GS 025
800 HOSPITAL DR. STE. #6 AC
NEW BERN 28560 919 633-3557

GRIER, JOHN CALVIN, JR. P 063
P. O. BOX 819 A * L
PINEHURST 28374 919 295-6166

GRIER, MICHAEL WILLIAM GE /IM 011
30 CHOCTAW STREET A AC
ASHEVILLE 28801 704 254-0881

GRIER, RAYMOND EDWARD AN 041
4406 WILD OAK LN. AC
GREENSBORO 27406 919 275-9741

GRIFFIN, ADRIAN MARK EM /P 086
PO BOX 1623 A AC
913 WORTH ST.
MOUNT AIRY 27030 919 786-2001

GRIFFIN, ASHTON THOMAS, III FP 096
2400 WAYNE MEMORIAL DRIVE A AC
GOLDSBORO 27530 919 735-8601

GRIFFIN, EZRA DANIEL, JR. OBG 060
449 N. WENDOVER ROAD A AC
CHARLOTTE 28211 704 364-3760

GRIFFIN, HAROLD WALKER OPH 018
1610 10TH ST. DR. NW A L/RT
HICKORY 28601 704 327-8526

GRIFFIN, JOSEPH LAIRD OBG 014
P. O. BOX 2640 A AC
LENOIR 28645 704 758-2300

GRIFFIN, MARION WILSON GS /TS 076
205 E. ACADEMY ST. A AC
ASHEBORO 27203 919 625-6188

GRIFFIN, RICHARD MADISON OPH 018
27 13TH AVENUE, N.E. A P AC
HICKORY 28601 704 322-6040

GRIFFIN, ROBERT ASHLEY P/N 011
APPALACHIAN HALL, BOX 5534 A AC
ASHEVILLE 28813 704 253-3681

GRIFFIN, STEPHANIE D. 074
RT. 1, BOX 260 A S
MACCLESFIELD 27852 919 827-5567

GRIFFIN, THOMAS LAFAYETTE U 098
1700 S. TARBORO ST. A AC
WILSON 27893 919 291-1300

GRIFFIN, THOMAS RAY FP 049
P. O. BOX 328 AC
TROUTMAN 28166 704 528-4588

GRIFFIN, WILLIAM RAY, JR. P/N 011
30 HILLTOP ROAD A AC
ASHEVILLE 28803 704 253-3681

GRIFFIN, WILLIAM RUSSELL, JR. ORS 060
3535 RANDOLPH ROAD, STE. 103 A AC
CHARLOTTE 28211 704 365-2111

GRIFFITH, MARY IRENE GYN 034
515 S. HAWTHORNE RD. A L/RT
WINSTON-SALEM 27103 919 724-7321

GRIFFITHS, MARIAN FOLSOM 032
ROUTE #8, BOX 65 A R
CHAPEL HILL 27514 919 942-2945

GRIGG, CLAUD MCNEILL IM /CD 060
217 TRAVIS AVENUE A AC
CHARLOTTE 28204 704 372-3350

GRIGGS, BOYCE POWELL FP 055
334 W. SYCAMORE STREET AC
LINCOLNTON 28092 704 735-5151

GRIGGS, JAMES PHILIP, JR. 074
P. O. BOX 172 A S
WINTERVILLE 28590 919 756-9608

GRIGGS, THOMAS RUSSELL CD /IM 032
UNC, DEPT. OF MED. & PTH AC
CHAPEL HILL 27514 919 966-5207

GRIGSBY, HARDIN BLAND GYN 018
P. O. BOX 310 A AC
CONOVER 28613 704 328-8146

GRIM, KENNETH BOYD PTH /CLP 032
124 FIRST ST. NW A L/RT
LONG BEACH 28461 919 278-9424

GRIMES, JOHN HARLIN U 032
2609 N. DUKE ST., STE. 302 A AC
DURHAM 27704 919 471-8423

GRIMM, RUBY ANN ON /HEM 049
738 BRYANT ST. A P AC
STATESVILLE 28677 704 873-2219

GRIMMETT, MATTHEW HILL R/PD 010
829 SHORELINE DRIVE, WEST L/RT
SUNSET BEACH 28459 919 579-2091

GRIMSON, BAIRD SANFORD OPH 032
UNC, 617 CLINICAL SCI. 229-H A * AC
CHAPEL HILL 27514 919 966-5296

GRIMSON, KEITH SANFORD GS 032
3313 DEVON ROAD A L/RT
DURHAM 27707 919 489-2241

GRINE, WILLIAM BARK U 098
1704 TARBORO STREET A AC
WILSON 27893 919 291-7001

GRISHAM, JOE WHEELER PTH /GE 032
UNC, DEPT. OF PTH-228H A AC
CHAPEL HILL 27514 919 966-4678

GRISTINA, ANTHONY GEORGE ORS 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-3952

GRIVAS, NICHOLAS ELLSWORTH NS 060
1928 RANDOLPH RD. STE. 100 A AC
CHARLOTTE 28207 704 377-9312

GROAT, RICHARD ARNOLD PTH 041
1321 N. ELM STREET AC
GREENSBORO 27401 919 274-9005

GROAT, ROBERT LANIER OPH 041
1317 N. ELM ST., STE. #4 AC
GREENSBORO 27401 919 378-1442

GROBEN, PAMELA ANNE PTH 001
327 GRAHAM-HOPEDALE RD. AC
BURLINGTON 27215 919 228-1371

GROCE, JAMES GRAY P 092
508 RALPH DR. AC
CARY 27511 919 733-5540

GRODE, HARVEY E. IM /ON 098
WILSON CLINIC A AC
WILSON 27893 919 291-7001

GRODE, MICHAEL JAMES PD 060
149 PROVIDENCE ROAD AC
CHARLOTTE 28207 704 372-6525

GROLNICK, CAROL ANN 074
2007-B E. 4TH ST. A S
GREENVILLE 27834 919 758-5227

GROMET, MATTHEW DR 060
3535 RANDOLPH ROAD AC
CHARLOTTE 28211 704 365-0343

GROOVER, CALTON DOUGLAS PTH 060
P. O. BOX 32861 AC
CHARLOTTE 28232 704 331-3227

GROSECLOSE, JAMES DAVID GP 076
124 COMMERCE SQUARE A AC
RANDLEMAN 27317 919 498-2505

GROSS, ANDREW HARRY 032
71 HOFSTRA DR. A S
PLAINVIEW, NY 11803 919 967-0206

GROSS, JEFFREY LOUIS ORS 067
128 MEMORIAL DRIVE A P AC
JACKSONVILLE 28540 919 353-4500

GROSSHANDLER, STANLEY LOUIS AN 092
1108 DRESSER CT. AC
RALEIGH 27609 919 872-5330

GROSSMAN, HERMAN LEWIS PDR /PD 032
BOX 3834, DUMC AC
DURHAM 27710 919 681-2711

GROSSMAN, SARAH RONA 034
1608-K NORTHWEST BLVD. A * S
WINSTON-SALEM 27103 919 723-3868

GROSSNICKLE, MARK EARL 032
3603 CRYSTAL COURT A S
DURHAM 27705 919 477-8535

GROVE, DAVID DWIGHT IM 041
1511 WESTOVER TERRACE AC
GREENSBORO 27408 919 373-1184

GROVES, ROBERT BLAINE R 097
RT. #1, BOX 275-B AC
PURLEAR 28665 919 651-8100

GROVES, ROBERT BURWELL, JR. OBG 036
902 COX ROAD, SUITE F A AC
GASTONIA 28052 704 867-1549

GRUBB, STEPHEN ALLEN ORS 032
110 S. ESTES DR. A P AC
CHAPEL HILL 27514 919 929-7796

GRUBB, STEPHEN DALE FP 024
PIREWAY RD. A P AC
PO BOX 675
TABOR CITY 28463 919 653-2113

GRUBB, WALTER LEE, JR. DR 060
3535 RANDOLPH RD. STE. 102 A AC
CHARLOTTE 28211 704 365-0343

GRUHN, WILLIAM BRYANT IM /RHU 060
1350 S. KINGS DRIVE AC
CHARLOTTE 28207 704 372-3750

GUAJARDO, CESAR PYA /P 032
20 W. COLONY PL., STE. 160 AC
DURHAM 27705 919 383-6933

GUALTIERI, CAMILLO THOMAS P/CHP 032
UNC, DEPT. OF PSYCHIATRY A AC
CHAPEL HILL 27514 919 966-5161

GUARINO, GUY JOSEPH PTH 018
ROUTE #2, BOX 197 A AC
CONOVER 28613 704 322-3821

GUERRA, MARC FRANCIS FP 014
912 CONNELLY SPRINGS RD. AC
LENOIR 28645 704 728-8224

GUEST, CHRIS WARREN IM /GP 041
102 POMONA DRIVE A AC
GREENSBORO 27407 919 299-0000

GUILFORD, WILLIAM BONNER DR 060
3535 RANDOLPH RD., STE. 102 AC
CHARLOTTE 28211 704 338-2274

GUITERAS, GEORGE PATRICK FP 032
110 S. ESTES DR., SUITE 205 * AC
CHAPEL HILL 27514 919 967-8291

GULLEDGE, SIDNEY LOY, III OPH 092
3400 EXECUTIVE DR., STE. 101 A P * AC
RALEIGH 27609 919 878-0220

GULLEY, MARCUS MARCELLUS P 034
DEPARTMENT OF PSYCHIATRY A AC
WINSTON-SALEM 27103 919 748-4554

GULLEY, PAUL HUDSON IM /END 086
180-B PARKWOOD DR. A AC
ELKIN 28621 919 748-2011

GULYN, ANNA BAUHOFER GP 080
117 PINETREE ROAD P AC
SALISBURY 28144 704 636-2351

GULYN, BOHDAN EMANUEL P/GP 080
117 PINETREE ROAD A RT
SALISBURY 28144 704 633-7770

GUNN, CHARLES GROSHON, JR. OM /IM 034
SARA LEE CORPORATION A AC
WINSTON HEADQUARTERS,BOX 2760
WINSTON-SALEM 27102 919 744-3708

GUNNELLS, JAMES CAULIE NEP /IM 032
BOX 2991, DUMC A AC
DURHAM 27710 919 684-5038

GUNTER, JUNE U. PTH 032
1411 N. MANGUM STREET A L/RT
DURHAM 27701 919 688-3457

GUNTER, WM. B., JR. OBG 032
1821 GREEN ST. A AC
DURHAM 27705 919 286-1258

GUNTHER, ROBERT CLARENCE AN 011
25 LAWRENCE PLACE A AC
ASHEVILLE 28801 704 252-1016

GUPTA, GOOL KAPADIA PUD /IM 096
2704 MEDICAL OFFICE PLACE AC
GOLDSBORO 27530 919 736-4724

GUPTA, JAGMOHAN DASS CD /IM 096
2704 MEDICAL OFFICE PLACE AC
GOLDSBORO 27530 919 736-4724

GUSDON, JOHN PAUL, JR. OBG 034
3240 NOTTINGHAM ROAD AC
WINSTON-SALEM 27104 919 748-4039

GUSTKE, SUSAN SHAW IM /HEM 092
4100 STRANAVER PLACE A * AC
RALEIGH 27612 919 733-5431

GUTAI, JAMES PAUL PDE /PD 074
3901 BEAUBIEN BLVD. AC
CHILDRENS HOSP. OF MICHIGAN
DETROIT, MI 48201 313 745-5531

GUTMAN, ROBERT ALLAN NEP /IM 032
2609 N. DUKE ST., STE. 604 A P AC
DURHAM 27704 919 477-3005

GUTTLER, SANFORD DENNIS FP 018
1 TRADE STREET AC
GRANITE FALLS 28630 704 396-3136

GUY, CLIFFORD RICHARD CD /IM 034
250 CHARLOIS BOULEVARD A * AC
WINSTON-SALEM 27103 919 768-4730

GWYN, PAUL PERKINS, JR. PS /GS 034
2901 MAPLEWOOD AVENUE A * AC
WINSTON-SALEM 27103 919 765-8620

GWYNN, THOMAS LEA GP 001
P. O. BOX 340 A AC
YANCEYVILLE 27379 919 694-6311

GWYNNE, JOHN THOMAS END 032
234 HUNTINGTON DRIVE AC
CHAPEL HILL 27514 919 966-3338

GYVES, JOHN WILLIAM IM /ON 074
ECU DEPT. OF MEDICINE A AC
BRODY BLDG. MOYE BLVD.
GREENVILLE 27834 919 551-2554

HA, KHIE SEM FP 078
229 S. MAIN STREET AC
RED SPRINGS 28377 919 843-4117

HAAK, EDWARD DECKER, JR. IM /CD 076
208 FOUST ST. A P AC
P. O. BOX 2839
ASHEBORO 27203 919 625-4020

HAAKENSON, GARY ALVIN OBG 092
3126 BLUE RIDGE RD. P AC
RALEIGH 27606 919 782-3865

HAAR, FREDERICK BEHREND PD 074
610 S. OAK STREET A L
GREENVILLE 27834 919 752-2039

HAAS, ALI EKREM GS 032
6 BLUEBERRY HILL R
PITTSBORO 27312 919 966-4131

HABEL, DAVID CHRISTOPHER 032
306 BRIAR BRIDGE VALLEY A S
CHAPEL HILL 27514 919 933-8109

HABERKERN, ROY CONRAD CHP 034
300 S. HAWTHORNE RD. AC
WINSTON-SALEM 27103 919 748-4220

HACKLANDER, SHELLEY W. 034
PO BOX 427 A * S
MARS HILL 28754 704 689-4238

HADDAD, MICHEL GEORGE 034
300 S. HAWTHORNE RD. BOX 487 A S
WINSTON-SALEM 27103 919 723-7442

HADLER, NORTIN MARVIN RHU /IM 032
UNC, DEPT. OF MEDICINE AC
CHAPEL HILL 27514 919 966-4191

HADLEY, ROBERT PURCELL PTH 007
P. O. BOX 1328 A AC
WASHINGTON 27889 919 946-9074

HAGA, EDWARD WAYNE 074
804 FORBES ST. A S
GREENVILLE 27834 919 752-5190

HAGAMAN, LEN DOUGHTON GP 095
8 DOCTOR'S DR. AC
BOONE 28607 704 264-3923

HAGINS, DAVID MICHAEL OBG 054
KINSTON CLINIC NORTH AC
KINSTON 28501 919 522-4333

HAHN, MICHAEL WAYNE OBG 025
801 MCCARTHY BLVD. A AC
NEW BERN 28560 919 633-3942

HAHNER, MATTHEW GS 004
407 S. GREENE ST. A P AC
WADESBORO 28170 704 694-4193

HAINER, BARRY LEWIS FP 074
602 QUEEN ANNE'S ROAD * AC
GREENVILLE 27834 919 551-4164

HAINES, CARROLL FOGG, JR. OPH 079
515 THOMPSON ST., STE. A A P AC
EDEN 27288 919 627-5271

HAINES, RICHARD LITTLETON IM /GP 065
HIGHWAY 17, AC
P. O. BOX 565
HAMPSTEAD 28443 919 270-3561

HAIR, GLENN EDGAR OT /OTO 026
3314 MELROSE ROAD A AC
FAYETTEVILLE 28304 919 323-1463

HAIRFIELD, THEODORE VINCENT GP 014
328 MULBERRY ST., SW AC
LENOIR 28645 704 754-3329

HAISTY, WESLEY KENNETH, JR. CD /IM 034
300 S. HAWTHORNE ROAD A AC
WINSTON-SALEM 27103 919 748-4673

HAITHCOCK, WILLIAM DANA, JR. OBG 026
1219 WALTER REED ROAD A AC
FAYETTEVILLE 28304 919 323-2103

HAIZLIP, THOMAS MATTHEWS CHP /P 092
5201 REMBERT DRIVE AC
RALEIGH 27612 919 733-5344

HAJISHEIKH, MOOSA CD /IM 077
P. O. BOX 1537 A AC
ROCKINGHAM 28379 919 997-3177

HALE, JOHN CHARLES GS /CDS 074
10 DOCTOR'S PARK A P AC
GREENVILLE 27834 919 758-1747

HALE, LAURA POPE 032
6512 CRAIG ROAD A S
DURHAM 27712 919 471-0865

HALE, LESLIE MORGAN OPH 032
110 CONNER DR. STE. #2 A AC
CHAPEL HILL 27514 919 942-8701

HALE, ROBERT VERNON OPH 032
110 CONNER DR. STE. #2 A AC
CHAPEL HILL 27514 919 942-8701

HALE, WAYNE A. FP 041
1125 N. CHURCH ST. A AC
GREENSBORO 27401 919 379-3582

HALL, BAHNSON DAVID OBG 080
315 MOCKSVILLE AVENUE A AC
SALISBURY 28144 704 636-9270

HALL, BRENT DWAYNE 074
DOCTOR'S PARK APTS, #P-7 A S
GREENVILLE 27834 919 752-7222

HALL, BRUCE LEE 032
#9 GEORGETOWN CT. A S
DURHAM 27705 919 684-6469

HALL, CHARLES DANIEL 032
4800 UNIVERSITY DR. A S
5-B BEECH LAKE APTS.
DURHAM 27707 919 493-0448

HALL, COLIN DAVID N 032
UNC, DEPT. OF NEUROLOGY A AC
CHAPEL HILL 27514 919 966-5522

HALL, DANIEL CRAWFORD FP 077
809 LONG DRIVE AC
ROCKINGHAM 28379 919 895-9075

HALL, DONALD GAMMON CD 060
1960 RANDOLPH ROAD AC
CHARLOTTE 28207 704 373-1503

HALL, GREGORY GRAYSON AN 065
2144 ECHO LANE AC
WILMINGTON 28403

HALL, JAMES BRYAN OBG /ON 060
CHARLOTTE MEMORIAL HOSPITAL A AC
P. O. BOX 32861
CHARLOTTE 28232 704 331-3149

HALL, JAMES GRAYSON FP 086
P. O. BOX 158 A P * AC
DOBSON 27017 919 386-8270

HALL, JAMES SAMUEL PD 026
3415-C MELROSE ROAD A AC
FAYETTEVILLE 28304 919 484-8163

HALL, JOHN HOWLAND D 041
1100 OLIVE STREET A AC
GREENSBORO 27401 919 272-3152

HALL, JOHN HOWLAND, JR. 034
300 S. HAWTHORNE RD. BOX 122 A * S
WINSTON-SALEM 27103 919 724-4639

HALL, JOHN MOIR GP 086
357 IVY CIRCLE A L/RT
ELKIN 28621 919 835-4534

HALL, JOSEPH CULLEN OBG 080
305 STUART DRIVE A P L/RT
SALISBURY 28144 704 633-9508

HALL, KENNETH DALAND AN 032
BOX 3094, DUMC A AC
DURHAM 27710 919 684-3591

HALL, LOCKSLEY S. GS 086
L.C. HOOTS MEMORIAL HOSPITAL A * AC
YADKINVILLE 27055 919 679-2041

HALL, WARNER LEANDER, JR. OBG 092
P. O. BOX 18568 A AC
RALEIGH 27619 919 782-1273

HALL, WILLIAM ERNEST FP 053
611 WICKER STREET AC
SANFORD 27330 919 774-6023

HALL, WILLIAM JAMES, JR. OTO 025
P. O. BOX 2406 A AC
NEW BERN 28560 919 638-2666

HALPERIN, EDWARD CHARLES TR 032
BOX 3085, DUMC * AC
DURHAM 27710 919 684-3196

HALPERN, EMILY ALYSSA 032
304 CEDARWOOD LN. A S
CARRBORO 27510 919 933-9037

HALVORSEN, ROBERT ALFRED, JR. DR 032
UNIV. OF MINNESOTA, BOX 292 A AC
DEPT. OF RADIOLOGY
MINNEAPOLIS, MN 55455 919 286-0411

HAMBRIGHT, RUFUS ROBERTS GYN 041
1309 N. ELM STREET A AC
GREENSBORO 27401 919 273-2563

HAMBY, GEORGE WALTERS P 032
DOCTOR'S BUILDING, WILLOW DR. AC
CHAPEL HILL 27514 919 929-6155

HAMBY, JAMES LAWRENCE U 095
WATAUGA MED. ARTS. BLDG. A P AC
BOONE 28607 704 264-5150

HAMER, ALFRED WILSON, JR. OBG 012
2203 S. STERLING ST., STE. 132 AC
MORGANTON 28655 704 437-6122

HAMER, EUGENE FLOYD GP 090
P. O. BOX 608 A P L
MONROE 28110 704 283-1553

HAMIL, SHARON SWEEDE FP 011
OLD U. S. HIGHWAY 70 * AC
BLACK MOUNTAIN 28711 704 669-5478

HAMILTON, BUFORD LINDSAY, JR. FP /GP 049
P. O. BOX 8 A AC
STONY POINT 28678 704 585-2953

HAMILTON, GENE THOMAS ORS 074
6 MEDICAL PAVILION A AC
GREENVILLE 27834 919 752-4613

HAMILTON, GEORGE EDWARD, JR. P 034
908 ARBOR ROAD AC
WINSTON-SALEM 27104 919 725-7777

HAMILTON, JAMES PRESSLY PDS 060
2104 RANDOLPH ROAD A * AC
CHARLOTTE 28207 704 377-3900

HAMILTON, ROBERT WILLIAM NEP /IM 034
BOWMAN GRAY SCH. OF MED. A AC
WINSTON-SALEM 27103 919 748-4304

HAMMER, DONALD EDWIN GS 060
2206 CUMBERLAND AVENUE A AC
CHARLOTTE 28203 704 375-3504

HAMMER, DOUGLAS IRA EM /GPM 092
P. O. BOX 30788 A P AC
RALEIGH 27622 919 847-8821

HAMMETT, ELLIOTT BRIAN P 032
V. A. HOSPITAL A P AC
DURHAM 27701 919 286-0411

HAMMOCK, RONALD MACK U 067
200 DOCTOR'S DR. SUITE C A AC
JACKSONVILLE 28540 919 353-9994

HAMMOND, ALFRED FRANKLIN, JR. GP 025
1514 TRENT BOULEVARD A L/RT
NEW BERN 28560 919 637-6066

HAMMOND, CHARLES B. OBG /END 032
BOX 3853, DUMC AC
DURHAM 27710 919 684-3008

HAMMOND, WILLIAM HOWARD, JR. GP 036
224 S. NEW HOPE RD. AC
GASTONIA 28054 704 867-3621

HAMMONDS, ROBERT EUGENE OTO /PS 013
113 COUNTRY CLUB DR. A AC
CONCORD 28025 704 788-2154

HAMPTON, JAMES HARRIS, JR. FP 034
P. O. BOX 325 A AC
LEWISVILLE 27023 919 945-5846

HAMPTON, JAMES WELDON OBG 039
1016 COLLEGE ST. EXT. A AC
OXFORD 27565 919 693-1082

HAMRICK, JOHN CARL GS 023
P. O. BOX 668 A L
SHELBY 28150 704 487-5132

HAMRICK, JOHN CARL, JR. ORS 023
110 W. GROVER STREET A AC
SHELBY 28150 704 487-1177

HAMRICK, LADD WATTS, JR. IM /NM 013
68 LAKE CONCORD ROAD, N.E. A AC
CONCORD 28025 704 782-3135

HAMSTEAD, STEVEN LYNN IM 074
112 FLETCHER PL. A R
GREENVILLE 27834 919 830-1512

HAN, GWANG SOO OBG 050
19 CENTRAL STREET A AC
SYLVA 28779 704 586-4096

HANCOCK, GEORGE MARVIN GS 014
401 MULBERRY ST. SW, STE. 101 A AC
LENOIR 28645 704 758-5501

HANCOCK, MILLIE PITTS A/PD 018
221 - 13TH AVENUE PLACE, N.W. A * AC
HICKORY 28601 704 322-1275

HANCOCK, RICHARD PAUL GS /TS 043
702 TILGHMAN DR. A AC
DUNN 28334 919 892-8120

HANCOCK, WILLIAM FRANKLIN, JR. PTH 001
1303 W. DAVIS ST. A P AC
BURLINGTON 27215 919 226-0196

HAND, LEROY CORBETT, JR. L/RT 070
ROUTE #1, BOX 490 AC
CAMDEN 27921 919 335-0531

HANNA, DONALD PAUL PS 032
PO BOX 3066 * AC
DURHAM 27705 919 383-7975

HANNA, LINDA J. GS 034
PO BOX 526 A R
BLOWING ROCK 28605

HANNA, RICHARD TINSLEY FP /HYP 060
6900 FARMINGDALE DRIVE A AC
CHARLOTTE 28212 704 536-1362

HANNAH, FRANK THOMAS OPH 023
313 S. WASHINGTON STREET A P * AC
SHELBY 28150 704 482-0696

HANRAHAN, LEO ROBERT, JR. PTH /BLB 074
ECU SCHOOL OF MEDICINE A * AC
DEPT. OF PATHOLOGY
GREENVILLE 27834 919 551-2806

HANSCOM, ALFRED CARLETON IM /FP 011
BURGE MOUNTAIN RD. A AC
RT. #5, BOX 89-B
HENDERSONVILLE 28739 704 693-7623

HANSEN, ALFRED ROY EM /FP 032
UNC, BURNETT-WOMACK,229H A AC
CHAPEL HILL 27514 919 966-5643

HANSON, JOHN STEPHEN GE /IM 060
2711 RANDOLPH RD. AC
CHARLOTTE 28207 704 373-0700

HANSPAL, PRITHVI PAL SINGH U 076
171 MCARTHUR STREET A AC
P. O. BOX 1509
ASHEBORO 27203 919 625-3997

HANZEL, SAM NS 001
PO BOX 2458 A P AC
SAN RAFAEL, CA 94901

HAPKE, EDITH JOSEPHINE PUD /IM 011
70 WOODFIN PL., STE. 304 AC
ASHEVILLE 28801 704 254-8878

HARBEN, DOUGLAS JAMES D/IM 060
3535 RANDOLPH RD., STE. 101-W A P AC
CHARLOTTE 28211 704 364-6110

HARBERTS, ARTHUR STANLEY OBG 049
P. O. BOX 1460 AC
STATESVILLE 28677 704 878-2011

HARBOLD, NORRIS BROWN, JR. CD /IM 060
1960 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 373-1503

HARBOURNE, KEVIN S. 034
1641 NORTHWEST BLVD. APT. D A S
WINSTON-SALEM 27104 919 724-7390

HARDAKER, WILLIAM T., JR. ORS 032
BOX 3956, DUMC A AC
DURHAM 27710 919 684-5334

HARDAWAY, JOHN STEGER FP 049
527 BROOKDALE DR. AC
STATESVILLE 28677 704 872-7429

HARDEMAN, RICHARD AUSTIN FP 023
616 E. MARION STREET AC
SHELBY 28150 704 487-6338

HARDIE, GREGORY STEVEN AN 034
408 FORSYTH MEDICAL PK A AC
WINSTON-SALEM 27103 919 768-7680

HARDIN, JAMES BENFORD FP 078
206 W. 28TH STREET AC
LUMBERTON 28358 919 739-8164

HARDING, ROBERT WILLIAM IM 081
NORRIS-BIGGS CLINIC AC
RUTHERFORDTON 28139

HARDISON, CYNTHIA STOLTZE IM 092
1212 CEDARHURST DR. AC
RALEIGH 27609 919 872-4850

HARDISON, JOE WILLIAM OBG /GE 026
1320 MEDICAL DRIVE A AC
FAYETTEVILLE 28304 919 323-3301

HARDISON, JOSEPH H.,JR. IM /GE 092
1212 CEDARHURST DR. AC
RALEIGH 27609 919 872-4850

HARDISON, LEWIS BENJAMIN FP 026
P. O. BOX 64369 AC
FAYETTEVILLE 28306 919 323-0085

HARDISON, MITCHELL DALE IM 098
BRENTWOOD MEDICAL CENTER A AC
WILSON 27893 919 291-7001

HARDMAN, EDWARD FRANCIS GYN /OBS 060
1000 HUNTINGTON PARK DRIVE A L/RT
CHARLOTTE 28211 704 366-1962

HARDY, IRA MAY, II NS 074
125 MOYE BOULEVARD A * AC
GREENVILLE 27834 919 752-5156

HARDY, JAMES JOSEPH 032
DEPT. OF OB/GYN A R
N. C. MEMORIAL HOSPITAL
CHAPEL HILL 27514 919 942-7438

HARDY, JOHN GREGG N 074
425 STANTONSBURG ROAD A AC
GREENVILLE 27834 919 752-4848

HARDY, WINFIELD FP 011
P. O. BOX 696 AC
SKYLAND 28776 704 684-7801

HARE, RANSOM BRYANT, JR. U 065
841 HANOVER DR. A L/RT
GRIFFIN, GA 30223

HARE, ROY ALLEN IM 032
2609 N. DUKE STREET A AC
DURHAM 27704 919 471-8481

HARGRAVE, RONALD PAUL EM 032
8100 BAYFIELD RD., APT. 25-E A R
COLUMBIA, SC 29223 803 788-2558

HARKER, MARGARET NELSEN GP 016
P.O. DRAWER 897 A * AC
MOREHEAD CITY 28557 919 247-3476

HARKINS, PAUL DUANE ORS /HS 041
1505 WESTOVER TERR. A AC
GREENSBORO 27408 919 275-0927

HARLAN, STEVEN DANE R 018
P. O. BOX 308 A AC
HICKORY 28603 704 322-2644

HARLEY, JOHN CRITTENDEN EM 045
1003 FIFTH AVE. WEST AC
HENDERSONVILLE 28739 704 692-8042

HARLEY, STEWART JACQUES ORS 044
114 HOSPITAL DRIVE A P AC
CLYDE 28721 704 452-2218

HARLEY, WILBUR JONES OM /GPM 000
241 FLINTSHIRE ROAD A AS
WINSTON-SALEM 27104 919 768-4469

HARMAN, JOHN SIMON U 001
1610 VAUGHN ROAD A AC
BURLINGTON 27215 919 227-2761

HARMAN, LAURA S. 032
207 CONNER DR. APT. 23 A S
CHAPEL HILL 27514 919 967-6791

HARMEL, MEREL HILBER AN 032
BOX 3094, DUMC A AC
DURHAM 27710 919 684-2945

HARMON, DORALEA RYLE FP 056
P. O. BOX 1329 AC
FRANKLIN 28734 704 524-5070

HARMON, PERRY MONROE OBG 026
1811 LAKESHORE DR. AC
FAYETTEVILLE 28305 919 484-3271

HARMON, RAYMOND HARRIS OPH 095
120 HIGHLAND AVENUE A L/RT
BOONE 28607 704 264-8669

ARNED, HERBERT SPENCER, JR. PDC 032
UNC SCHOOL OF MEDICINE AC
CHAPEL HILL 27514 919 966-4601

ARPER, DAVID KEITH OPH 013
500 LAKE CONCORD RD., NE A AC
CONCORD 28025 704 782-1127

ARPER, JAMES ROBINSON IM /CD 032
891 W. WILLOW DRIVE AC
CHAPEL HILL 27514 919 942-5123

ARPER, LARRY OLEN IM /END 001
KERNODLE CLINIC, INC. A * AC
BURLINGTON 27215 919 227-3621

ARPER, MARGARET A. OBG 034
300 S. HAWTHORNE RD. AC
WINSTON-SALEM 27103 919 748-4595

ARPER, MATT CLEVELAND, JR. GP 054
CHERRY HOSP., CALLER BOX 8000 AC
GOLDSBORO 27530 919 522-3162

ARPER, ROBERT NORMENT, JR. GE /IM 092
P. O. BOX 18700 * AC
1212 CEDARHURST DR.
RALEIGH 27609 919 872-4850

ARPER, ROBERT NORMENT, SR. P 092
3153-G GLENWOOD PROF. VILL. A AC
RALEIGH 27608 919 782-1555

ARR, CHARLES DULANEY GS 034
719 WESTVIEW DRIVE A R
WINSTON-SALEM 27103 919 748-2011

ARRELL, LONNIE CLAYTON, III OBG 060
150 PROVIDENCE ROAD A AC
CHARLOTTE 28207 704 377-0461

ARRELL, WADE WHITLEY OPH 040
319 WESTWOOD AVENUE A * AC
HIGH POINT 27262 919 883-7867

ARRELL, WARREN LAMAR, JR. R 023
1237 BROOKWOOD DRIVE A P AC
SHELBY 28150 704 482-3880

ARRELL, WILLIAM FLETCHER, JR. PD 070
1142 N. ROAD ST. A AC
ELIZABETH CITY 27909 919 338-2155

ARRELSON, JOHN MILES ORS /PTH 032
BOX 3023, DUMC A * AC
DURHAM 27710 919 684-5304

ARRILL, HENRY CLAY U/BLB 041
224 N. ELM ST. A L/RT
GREENSBORO 27401 919 273-3429

ARRINGTON, LEE, JR. OM /IM 034
2340 OLIVET CHURCH ROAD A L/RT
WINSTON-SALEM 27106 919 924-4179

ARRIS, BRUCE C. GS 049
PO BOX 1460 AC
STATESVILLE MEDICAL GROUP
STATESVILLE 28677 704 878-2011

ARRIS, CARLTON MCKENZIE IM 041
1026 PROFESSIONAL VILLAGE A AC
GREENSBORO 27401 919 272-7108

ARRIS, CHARLES ODELL OBG 032
2609-B CARVER STREET AC
DURHAM 27705 919 471-1573

ARRIS, CHARLES THEODORE, JR. AN 060
401 FESBROOK COURT L/RT
CHARLOTTE 28226

ARRIS, CHARLES WALKER CD /IM 060
125 BALDWIN AVE. A * AC
CHARLOTTE 28204 704 374-1696

ARRIS, ISAAC EMERON, JR. CRS 032
2836 CHAPEL HILL RD. APT. 17F A L/RT
DURHAM 27707 919 383-5531

ARRIS, JEFFREY DAVISON FP 018
HIGHWAY 127 NORTH A AC
P. O. BOX 6050
HICKORY 28601 704 495-8226

ARRIS, JIMMIE LEE GP 034
270 FORSYTH MEDICAL PARK A AC
WINSTON-SALEM 27103 919 768-5260

ARRIS, LARRY COLEMAN PD 026
P. O. BOX 40405 A AC
FAYETTEVILLE 28309 919 323-4281

ARRIS, LAWRENCE STANLEY FOP /NA 074
ECU SCHOOL OF MEDICINE A AC
BRODY BLDG. 1S08
GREENVILLE 27858 919 551-4655

ARRIS, MICHAEL ALAN P 067
MOQ 2314 A AC
CAMP LEJEUNE 28542 919 451-2081

HARRIS, MILTON DEAN CD /IM 034
2810 MAPLEWOOD AVENUE A AC
WINSTON SALEM 27103 919 768-0437

HARRIS, ROBERT THOMAS IM /PYM 092
2800 BLUE RIDGE RD., STE. 503 AC
RALEIGH 27607 919 782-7500

HARRIS, SAMUEL RANCHOR OBG 029
7 MEDICAL PARK DRIVE A AC
LEXINGTON 27292 704 243-2431

HARRIS, THOMAS REGINALD PUD /IM 023
808 SCHENCK STREET A P * AC
SHELBY 28150 704 482-1482

HARRIS, TYNDALL PEACOCK IM 032
P. O. BOX 3118 A AC
CHAPEL HILL 27514 919 733-3222

HARRIS, WILLIAM RIX OPH 018
P. O. BOX 2588 A AC
HICKORY 28603 704 322-2050

HARRISON, FRANK N.H., JR. OBG 060
449 N. WENDOVER ROAD A AC
CHARLOTTE 28211 704 364-3760

HARRISON, LLOYD HERRITAGE U 034
300 S. HAWTHORNE RD. A * AC
WINSTON-SALEM 27103 919 748-4131

HARRISS, WILLIAM FRED R 040
P. O. BOX 5007 A AC
HIGH POINT 27262 919 884-6037

HARROLD, LAURIE J. 034
324 CRAFTON ST. A S
WINSTON-SALEM 27103 919 723-5882

HARSHAW, CHARLES WILLIAM, JR. CD /IM 041
P. O. BOX 20928 A AC
GREENSBORO 27420 919 275-8581

HARSHBARGER, JOHN LYNN RHU /A 065
1202 MEDICAL CENTER DR. AC
WILMINGTON 28401 919 341-3350

HARSTON, PHILLIP REED OBG 060
2711 RANDOLPH RD. STE. 512 AC
CHARLOTTE 28207 704 333-4104

HART, ELZIE FRANKLIN, JR. OTO /PS 012
350 E. PARKER ROAD A AC
MORGANTON 28655 704 433-6410

HART, LOWELL L. ON /HEM 032
1012 PROLOGUE ROAD A AC
DURHAM 27712 919 471-2858

HART, OLIVER JAMES, JR. U 034
1806 S. HAWTHORNE ROAD A AC
WINSTON-SALEM 27103 919 768-0735

HART, OLIVER JAMES, SR. U 034
1930 GEORGIA AVENUE A L/RT
WINSTON-SALEM 27104 919 722-6598

HART, ROBERT ERIC 032
C-5 211 CHURCH ST. A S
CHAPEL HILL 27514 919 967-0370

HART, ROBERT WILLIAM, III FP 018
221 13TH AVENUE PL., NW A P AC
HICKORY 28601 704 322-5800

HART, TIMOTHY BERTRAND IM /PUD 092
1212 CEDARHURST DRIVE AC
RALEIGH 27609 919 872-4850

HARTLE, EDGAR OWEN EM 060
PO BOX 32861 A AC
CHARLOTTE 28232 704 334-8419

HARTMAN, EDWIN LONZO IM 051
515 N. EIGHTH STREET AC
SMITHFIELD 27577 919 934-1211

HARTMAN, MARJORIE LYNN 034
318 GROVE PARK AVE. A S
WINSTON-SALEM 27103 919 725-8909

HARTMANN, THOMAS MICHAEL DR 011
180 PATTON MOUNTAIN RD. * AC
ASHEVILLE 28804 704 254-4617

HARTNESS, ALBERT R. FP 034
P. O. BOX 427 A AC
MOCKSVILLE 27028 704 634-2108

HARTNESS, ALVIN HUNTER PD 026
514 OWEN DRIVE A * AC
FAYETTEVILLE 28304 919 323-4571

HARTNESS, JOHN FREDERICK, JR. IM /EM 090
1307 DOVE STREET AC
MONROE 28110 704 289-6474

HARTNESS, WILLIAM RUFUS, JR. FP 053
615 CARR STREET A L
SANFORD 27330 919 775-3491

HARTSELL, CHARLES JACOB, JR. AN 063
MOORE MEMORIAL HOSPITAL AC
PINEHURST 28374 919 295-6861

HARTZOG, HENRY GERARD, III GS 092
3814 BROWNING PLACE A AC
RALEIGH 27609 919 781-0710

HARVEY, WALLACE WATSON, JR. GP /AM 000
330 WASHINGTON ST. #2 A P AC
PORTSMOUTH, VA 23704 703 698-5681

HARVIN, ALLAN BRABHAM ORS 096
2701 MEDICAL OFFICE PLACE A AC
GOLDSBORO 27530 919 736-2157

HASERICK, JOHN ROGER DMP /D 063
P. O. BOX 669 * AC
PINEHURST 28374 919 295-5567

HASHEMI, ZIAOLLAH 034
1439-L HUTTON ST. A S
WINSTON-SALEM 27103

HASKETT, JOSEPH RAY, JR. IM 021
CHOWAN MEDICAL CENTER A AC
EDENTON 27932 919 482-2116

HASLAM, JOHN BATTLE 011
200 DOCTOR'S BLDG. A AC
ASHEVILLE 28801 704 255-4100

HASSELL, CHARLES M., JR. PTH /DMP 041
1200 N. ELM STREET A * AC
GREENSBORO 27401 919 379-4074

HASSLER, ROBERT EMIEL OBG 010
DOCTORS COMPLEX, #4 A AC
SUPPLY 28462 919 754-9166

HATCH, ALLAN BRAZIEL 074
127 AVERY ST. APT. #3 A S
GREENVILLE 27834

HATCH, STEPHEN J. 034
817 CHANCY LN. A S
WINSTON-SALEM 27104 919 765-4179

HATCHER, MARTIN ARMSTEAD N 041
1305 W. WENDOVER AVENUE A AC
GREENSBORO 27408 919 275-0779

HATCHER, PAUL ARTHUR U 000
BOX 2922, DEPT. OF UROLOGY R
DUKE MEDICAL CENTER
DURHAM 27710 617 876-1376

HATCHER, WALTER BENJAMIN 074
104 GREENEWAY APTS. A R
GREENVILLE 27834

HATCHETT, JOHN FRANKLIN, JR. 032
UNC, 458 CRAIGE DORMITORY A * S
CHAPEL HILL 27514 919 933-3491

HATJIS, CHRISTOS GEORGE OBG /NPM 034
300 S. HAWTHORNE RD. AC
WINSTON-SALEM 27103 919 748-4291

HATTAWAY, ALEXANDER C.,III OTO /HNS 092
3010 ANDERSON DR. A AC
PO BOX 18946
RALEIGH 27619 919 787-7171

HATTEN, HOMER PAUL, JR. DR 060
PRESBYTERIAN HOSP. DEPT. RAD A AC
P. O. BOX 33549
CHARLOTTE 28233 704 371-4057

HAUCH, THOMAS WRAY ON /HEM 060
1350 S. KINGS DRIVE A AC
CHARLOTTE 28207

HAVEN, ANDREW EDDY OBG 074
2245 STANTONSBURG RD.,STE.H A AC
GREENVILLE 27834 919 782-1273

HAVERKAMP, JOHN D 096
1706 EVERGREEN AVENUE A AC
GOLDSBORO 27530 919 734-0944

HAVOUNDJIAN, HRATCHIA 032
506 N. GREENSBORO ST., #43 A S
CARRBORO 27510 301 654-8309

HAWES, ANNE COLCLOUGH N 060
2608 E. SEVENTH ST. AC
CHARLOTTE 28204 704 377-9323

HAWES, CHARLES FOREST GP 031
P. O. BOX 486 A L/RT
ROSE HILL 28458 919 289-2739

HAWES, MARY LINDA IM /NEP 064
100 NASH MEDICAL ARTS MALL AC
ROCKY MOUNT 27801 919 493-9084

HAWES, SAMUEL PINCKNEY, III U 060
1333 ROMANY ROAD AC
CHARLOTTE 28204 704 372-5180

HAWES, STEPHEN JAMES, JR. ID /IM 060
1928 RANDOLPH RD. STE. 210 A AC
CHARLOTTE 28210 704 372-3350

HAWK, ROBERT JOE OBG 088
1220 ASHEVILLE HIGHWAY A AC
BREVARD 28712 704 883-8115

HAWK, RODNEY JAMES OTO 045
512 PARK HILL CT. A * AC
PO BOX 1065
HENDERSONVILLE 28739 704 693-0706

HAWKINS, BARRY FUGH IM 013
PO BOX 2958 A L/RT
CONCORD 28025 704 782-1101

HAWKINS, HAL BURGESS FP 097
11 GREEN WAY A AC
WILKESBORO 28697 919 838-3491

HAWKINS, JAMES HUBERT, JR. FP 001
316 1/2 S. MAIN STREET AC
GRAHAM 27253 919 228-9759

HAWKINS, JAMES HUBERT, SR. GP 001
P. O. BOX 476 AC
GRAHAM 27253 919 227-7496

HAWKINS, SARALYN REID 032
BOX 2793, DUMC A S
DURHAM 27710 919 684-6132

HAWORTH, CHESTER CARL, JR. N/IM 040
624 QUAKER LANE, SUITE 211-B A AC
HIGH POINT 27262 919 889-1496

HAWTHORNE, HENRY CLAIBORNE, JR PD 065
1920 S. 16TH STREET AC
WILMINGTON 28401 919 763-2072

HAYE, HENRY SOLOMON OBG 067
PO BOX 1229 P AC
JACKSONVILLE 28541 919 346-2182

HAYES, BENNETT ALLEN, JR. OBG 026
1219 WALTER REED ROAD A AC
FAYETTEVILLE 28304 919 323-2103

HAYES, DAVID ALLEN PUD /IM 092
1212 CEDARHURST DRIVE A AC
RALEIGH 27609 919 872-4850

HAYES, DONALD MICHAEL OM /IM 041
3330 W. FRIENDLY AVE. A * AC
GREENSBORO 27410 919 379-4610

HAYES, HUGH HARRISON,JR. R 060
P. O. BOX 33549 A AC
CHARLOTTE 28233 704 371-4000

HAYES, JAMES WILLIAM ORS 001
KERNODLE CLINIC AC
BURLINGTON 27215 919 227-3621

HAYES, JOHN CHANDLER 032
8 CEDAR TERRACE A R
CHAPEL HILL 27514 919 929-7743

HAYES, JOHN TERRENCE ORS 034
301 MILLER STREET, SUITE 201 A AC
WINSTON-SALEM 27103 919 723-2418

HAYES, RICHARD IVAN OBG 092
1100 DRESSER COURT A AC
RALEIGH 27609 919 876-8225

HAYES, WILLIAM CLAYTON GP 097
P. O. BOX 540 A * AC
WILKESBORO 28697 919 667-6871

HAYES, WILLIAM CLAYTON, JR. PD 036
635-A COX ROAD AC
GASTONIA 28054 704 864-5437

HAYGOOD, VANESSA PEARLINE OBG 041
914 MONTICELLO ST. A AC
GREENSBORO 27410 919 292-7010

HAYNES, CARL LEWIS, JR. FP 031
PO BOX 850 P AC
ROSE HILL 28458 919 289-3027

HAYNES, LAWRENCE BOWMAN AN 092
1205 KERSHAW DR. A * AC
RALEIGH 27609 919 782-2009

HAYWARD, JAMES NEIL N 032
UNC,751 CLINICAL SCI. BLDG. A AC
CHAPEL HILL 27514 919 966-2526

HAYWOOD, HUBERT BENBURY, III ID /IM 092
1212 CEDARHURST DR. AC
PO BOX 18700
RALEIGH 27619 919 872-4850

HAYWOOD, HUBERT BENBURY,JR. OPH 092
2109 BANBURY ROAD A * L/RT
RALEIGH 27608 919 782-0236

HAZLEHURST, JOHN LIVINGSTON GS 011
16 MCDOWELL STREET A AC
ASHEVILLE 28801 704 252-3366

HAZZARD, WM. RUSSELL IM 034
300 S. HAWTHORNE RD. AC
DEPT. OF MEDICINE
WINSTON-SALEM 27103 919 748-4305

HEADLEY, ROBERT NELSON CD /IM 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4331

HEALY, PATRICK K. IM 034
250 CHARLOIS BLVD. * AC
WINSTON-SALEM 27103 919 768-4730

HEARON, BRIAN PAUL CD /IM 018
1985 TATE BOULEVARD, SE A P AC
HICKORY 28601 704 324-4804

HEATH, HUNTER IM /AI 067
200 DOCTOR'S DRIVE, SUITE I L/RT
JACKSONVILLE 28540 919 353-6327

HEATH, KAREN SUE FP 000
3130 TURTLE POINT DR. I A R
FAYETTEVILLE 28304 919 485-2842

HEATH, STACEY MAURICE 074
202-A LINDBETH DR. A S
GREENVILLE 27834 919 355-2402

HEATON, FREDERICK CHRISTIAN OBG 092
3805 COMPUTER DR. A AC
RALEIGH 27609 919 781-6200

HEBERT, MARY ELIZABETH 032
311 S. LASALLE ST. APT. 8-I A S
DURHAM 27705 919 383-8780

HEBERT, STEPHEN WILLIAM P/N 034
1365 WESTGATE CENTER DR. A AC
SUITE N-1
WINSTON-SALEM 27103 919 760-3220

HEDBERG, ANN ELIZABETH 034
2810-D PELHAM PL. A S
WINSTON-SALEM 27106 919 722-5662

HEDGPETH, EDWARD MCGOWAN IM 032
P. O. BOX 87 A L/RT
CHAPEL HILL 27514 919 933-8794

HEDGPETH, EDWARD MCGOWAN, JR. OPH 032
1110 W. MAIN STREET A AC
DURHAM 27701 919 682-9341

HEDGPETH, JOSEPH ROWLAND OBG 029
1302 LEXINGTON AVENUE A P AC
THOMASVILLE 27360 919 475-6139

HEDGPETH, WILLIAM CAREY GYN 078
P. O. BOX 1021 A * L
LUMBERTON 28358 919 739-4923

HEDRICK, RICHARD ELI GS 034
1999 GEORGIA AVE. A L/RT
WINSTON-SALEM 27104 919 724-5454

HEDRICK, RICHARD ELI, JR. OBG 034
1806 S. HAWTHORNE RD. #102 A P AC
WINSTON-SALEM 27103 919 768-3632

HEFFINGTON, MARK WILLIAM FP 050
P. O. BOX 510 AC
CASHIERS 28717 704 743-2491

HEGDE, SADANADA BELINJE CD 078
4384 FAYETTEVILLE RD. A AC
LUMBERTON 28358 919 738-1141

HEINIG, CHARLES FREDERICK ORS /GS 060
1822 BRUNSWICK AVENUE A P AC
CHARLOTTE 28207 704 373-0544

HEINIG, MICHAEL FORREST ORS 000
831 CLEVELAND ST., APT. 223 A R
GREENVILLE, SC 29601 803 242-0673

HEIZER, MORTIMER DANTZLER FP 074
701 N. MAIN STREET AC
FARMVILLE 27828 919 753-3193

HEIZER, WILLIAM DAVID IM /GE 032
UNC, DEPT. OF MEDICINE AC
CHAPEL HILL 27514 919 966-2511

HELAK, JOSEPH WALTER CD /IM 065
410 R. L. HONEYCUTT A AC
WILMINGTON 28403 919 341-3400

HELLER, JOEL HARVEY FP 041
603 DOLLY MADISON AC
GREENSBORO 27410 919 294-6190

HELMS, JEFFERSON BIVENS, JR. IM /CD 034
1405 PLAZA DRIVE A AC
WINSTON-SALEM 27103 919 765-4131

HELPPIE, JOANNE E. IM 045
510 7TH AVENUE, WEST A AC
HENDERSONVILLE 28739 919 692-2232

HELSABECK, BELMONT AUGUSTUS OPH 034
631 COLISEUM DRIVE A L
WINSTON-SALEM 27106 919 723-1041

HELTON, WILLIAM CHARLES CDS /TS 092
3020 NEW BERN AVE. #560 A AC
RALEIGH 27610 919 781-5335

HEMBREE, EUGENE EDWARD, JR. OBG 036
1225 E. GARRISON BLVD. A AC
GASTONIA 28054 704 865-7417

HEMINGWAY, GEORGE CAPERS,JR. IM /PD 033
101 CLINIC DRIVE A AC
TARBORO 27886 919 823-2105

HEMMERLEIN, ARTHUR HANS EM 092
1209 RAINWOOD LANE A AC
RALEIGH 27605 919 755-3100

HENDEL, ROBERT CHARLES GS 088
MEDICAL PARK DR., BLDG #1 A AC
BREVARD 28712 704 884-2198

HENDERSON-SMATHERS, IRMA C. PH 011
1295 MERRIMON AVENUE A L/RT
ASHEVILLE 28804 704 252-0216

HENDERSON, ANDREW MCKNITT, JR. GP 049
252 W. MCLELLAND AVENUE AC
MOORESVILLE 28115 704 664-5477

HENDERSON, ANITA FP 041
104 E. NORTHWOOD ST. AC
GREENSBORO 27401 919 275-6445

HENDERSON, BRADLEY E. ORS 036
902 COX RD. STE. A AC
GASTONIA 28054 704 865-6487

HENDERSON, CATHY LYNN 074
3027 PARK VILLAGE APT. 7-13 A S
ADAMS BLVD.
GREENVILLE 27834 919 758-4094

HENDERSON, DAVID JAMES PD /A 079
601 W. HARRISON ST. AC
PO BOX 2299
REIDSVILLE 27320 919 349-8402

HENDERSON, DAVID YEARDLEY OBG 092
5014 CORONADO DR. A P AC
RALEIGH 27609 919 684-2484

HENDERSON, GEORGE P.,JR. HNS /OTO 063
PINEHURST SURGICAL CLINIC A AC
PINEHURST 28374 919 295-0242

HENDERSON, JOHN ARTHUR GS 011
117 RATHFARNHAM CIRCLE A P * AC
ASHEVILLE 28803 704 254-2341

HENDERSON, JOHN PERCY, JR. U 054
1701 SABRA DR. A AC
KINSTON 28501 919 527-3043

HENDERSON, REX ARTHUR EM 011
36 WEMBLEY ROAD A AC
ASHEVILLE 28804 704 255-3786

HENDERSON, RICHARD C. ORS 032
UNC, 237 BURNETT-WOMACK AC
DIV. OF ORS, 229H
CHAPEL HILL 27514 919 966-3691

HENDERSON, RICHARD ROBERT D 001
1522 VAUGHN ROAD A P AC
BURLINGTON 27215 919 227-0496

HENDRICKS, ANDREW ADAM D 078
102 WEST 27TH STREET A AC
LUMBERTON 28358 919 738-7154

HENDRICKS, WILLIAM MONROE D/A 076
407 S. COX ST. A P * AC
ASHEBORO 27203 919 625-8410

HENDRICKSON, STEVEN CRAIG 032
BOX 2743, DUMC A S
DURHAM 27710 919 471-0258

†HENDRIX, JAMES PAISLEY IM 032
925 NEW GARDEN RD. ROOM 803 A L
DECEASED - 1987
GREENSBORO 27410 919 489-3281

HENDRIX, JOHN DAVID D 074
1705 W. SIXTH STREET AC
GREENVILLE 27834 919 752-4124

HENGEVELD, LOFTUS, JR. EM /AN 074
107 IRON WOOD DRIVE A RT
GREENVILLE 27834 919 756-2047

HENLEY, DOUGLAS EUGENE FP 026
4092 PROFESSIONAL DR. AC
HOPE MILLS 28348 919 424-0123

HENLEY, JOHN T., JR. OTO 026
3314 MELROSE RD., STE. 100 A AC
FAYETTEVILLE 28304 919 323-1463

HENLEY, NANCY S. IM 032
3500 WESTGATE DR., STE. 705 AC
DURHAM 27707 919 493-8600

HENLEY, THOMAS FRANKLIN OBG 041
1309 N. ELM STREET A AC
GREENSBORO 27401 919 273-2563

HENNESSEN, JOHN A. ORS 063
PO BOX 1650 * AC
PINEHURST 28374 919 295-4130

ENNESSY, JOHN FRANCIS END /IM 034
300 S. HAWTHORNE RD. AC
WINSTON-SALEM 27103 919 748-2076

ENNIGAN, MICHAEL ARTHUR IM 077
53 MAIN ST. A AC
HAMLET 28345 919 582-0004

ENNINGER, JOSEPH BAYLOR IM 049
P. O. BOX 1808 AC
STATESVILLE 28677 704 873-7789

ENRICHS, CHARLES FP /EM 045
205 THOMPSON ST. A AC
HENDERSONVILLE 28739 704 693-9632

ENRICHS, W. DEAN D/DMP 034
250 CHARLOIS BLVD. A AC
WINSTON-SALEM 27103 919 768-6221

ENRICK, WILLIAM ROBERT AN 092
RALEIGH ANES. ASSOCIATES A AC
P. O. BOX 18139
RALEIGH 27619 919 781-7420

ENRY, HECTOR HIMEL, II U/PD 013
102 LAKE CONCORD ROAD, N.E. P * AC
CONCORD 28025 704 786-5133

ENRY, OZMER LUCAS, JR. IM 011
T B CONTROL UNIT A * AC
DIVISION OF HEALTH SERVICES
BLACK MOUNTAIN 28711 704 669-3117

ENSCHEN, GARY MAYES P/PYA 041
606 WALTER REED DR. A AC
GREENSBORO 27403 919 299-0108

ENSCHEN, HAL GS 026
2515 MORGANTON RD. A AC
FAYETTEVILLE 28303 919 485-8751

ENSEL, WILLIAM ARTHUR FP 041
1125 N. CHURCH ST. AC
GREENSBORO 27401 919 379-4035

ENSON, DONALD LENTZ, JR. 074
24 SCOTT ST. A S
GREENVILLE 27834 919 756-7639

ENSON, JOSEPH BASCOM, JR. IM 041
1107 W. FRIENDLY AVENUE L/RT
GREENSBORO 27401 919 274-1567

EPLER, JOHN DAVIS OBG 078
403 WEST 27TH STREET A AC
LUMBERTON 28358 919 739-2846

ERAVI, CYRUS GS 003
302 HOSPITAL ROAD A AC
SPARTA 28675 919 372-4343

ERBERT, PHILIP SIDNEY, JR. P 007
1308 HIGHLAND DRIVE * AC
WASHINGTON 27889 919 946-8061

ERBERT, WILLIAM, N.P. OBG /NPM 032
UNC, OB-GYN DEPARTMENT A AC
CHAPEL HILL 27514 919 966-1601

ERBST, CHARLES ARTHUR, JR GS /CRS 032
UNC, 136 BURNETT-WOMACK A AC
229-H
CHAPEL HILL 27514 919 966-5231

ERFKENS, ROBERT JOHN DR 032
BOX 3808, DUMC AC
MRI SECTION
DURHAM 27710 919 681-2711

ERINGTON, DAVID S. FP 012
2203 S. STERLING ST. AC
MORGANTON 28655 704 437-4241

ERION, JOHN CARROLL HEM /IM 032
N. C. MEMORIAL HOSPITAL * AC
CHAPEL HILL 27514 919 966-4555

ERLONG, JAMES RENE 032
618 MOREHEAD AVE. #1 A S
DURHAM 27707 919 688-8011

ERNANDEZ, LUIS NICHOLAS AN 000
PO BOX 1533 A AC
SLIDELL, LA 70459

ERNDON, WILLIAM MAUNEY, JR. CD /IM 060
1350 S. KINGS DR. A R
CHARLOTTE 28207 704 372-8750

ERRERA, MARCOS A. R 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-2491

ERRIN, ROBERT ALEXANDER MFS 060
1628 E. MOREHEAD A AC
CHARLOTTE 28207 704 376-0216

ERRING, CHARLES BARRY IM 092
2034-D BRENTWOOD RD. A R
RALEIGH 27604 919 942-4093

HERRING, CHARLES LEONIDAS IM 054
310 GLENWOOD AVENUE A * AC
KINSTON 28501 919 523-0026

HERRING, JOHN HARVARD OBG 084
1000 N. FIFTH STREET A P AC
ALBEMARLE 28001 704 982-8112

HERRING, RUFUS MCPHAIL, JR. PD 082
403 FAIRVIEW STREET * AC
CLINTON 28328 919 592-6011

HERRING, THEODORE TILGHMAN OM /GP 098
1704 S. TARBORO ST. L/RT
WILSON 27893

HERRING, WILLIAM ARTHUR, JR. ORS 095
30 DOCTOR'S PARK AC
BOONE 28607 704 264-1100

HERRING, WILLIAM BENJAMIN IM /HEM 041
1200 N. ELM ST. AC
GREENSBORO 27401 919 379-4062

HERRINGTON, ROBERT THOMAS PD /PDC 032
N. C. MEMORIAL HOSPITAL AC
CHAPEL HILL 27514 919 966-4601

HERSHATTER, BRUCE WARREN TR 032
315 BLVD., NE A AC
GEORGIA BAPTIST MEDICAL CTR.
ATLANTA, GA 30312

HERSHEY, CHARLES DANA, JR. AN 060
PO BOX 32861 A P AC
CHARLOTTE 28232 704 554-0239

HERTENSTEIN, JAMES C. OTO /HNS 011
131 MCDOWELL ST. A AC
ASHEVILLE 28801 704 254-3517

HERTLE, XAVER FRANZ P 041
106 E. NORTHWOOD STREET A AC
GREENSBORO 27401 919 275-1614

HERZOG, WILLIAM RAYMOND, JR. IM 032
4320 AMERICAN DR., APT. A R
DURHAM 27705 919 383-8847

HESS, PHILIP JOSEPH CDS /TS 060
1960 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 373-1500

HESTER, DAVID ALAN END /IM 011
445 BILTMORE CENTER, STE. 302 * AC
ASHEVILLE 28801 704 253-6812

HEYER, ROBERT ALLAN PUD /IM 060
2711 RANDOLPH ROAD, SUITE 100 AC
CHARLOTTE 28207 704 373-0700

HEYMAN, ALBERT N/IM 032
BOX 3203, DUMC L
DURHAM 27710 919 684-2682

HEYMANN, ROBERT CURTIS D 034
118 FORSYTH MEDICAL PARK * AC
WINSTON-SALEM 27103 919 765-1841

HIATT, JOHN DONALD, JR. DR 034
1304 FENIMORE STREET A R
WINSTON-SALEM 27103 919 725-6584

HIATT, JOSEPH SPURGEON, JR. IM /PUD 063
1645 MIDLAND RD. A L
SOUTHERN PINES 28387 919 295-5511

HICKEY, DOCIA ELIZABETH NPM /PD 060
CHARLOTTE MEM. HOSP. A AC
PO BOX 32861
CHARLOTTE 28232 704 338-3156

HICKLING, WILLIAM HENRY CHN /N 041
1305 W. WENDOVER AVE. A AC
GREENSBORO 27408 919 275-0779

HICKMAN, HARRY STUART PD 014
623 MAIN STREET, S.E. A L
HUDSON 28638 704 728-8484

HICKS, CHARLES HENRY CD 092
3400 EXECUTIVE DR. A P AC
RALEIGH 27609 919 872-8920

HICKS, CHARLES MONTGOMERY PD 065
1914 GLEN MEADE ROAD AC
WILMINGTON 28403 919 762-2651

HICKS, J. ROBINSON ORS 060
1350 KINGS DRIVE A AC
CHARLOTTE 28207 704 372-8750

HIDALGO, HECTOR JESUS DR 032
2609 N. DUKE ST. A AC
DURHAM 27704 919 471-8411

HIESTAND, FITZ GERALD, JR. GE /IM 060
1350 S. KINGS DRIVE AC
CHARLOTTE 28207 704 372-8250

HIGGINS, LLOYD MALCOLM PTH 040
221 HILLCREST DRIVE AC
HIGH POINT 27262 919 883-7047

HIGH, LARRY ALLISON FP 064
213 N. COLLINS ST. L/RT
NASHVILLE 27856 919 459-2811

HIGH, LARRY ALLISON, JR. OBG 064
132 FOY DRIVE AC
ROCKY MOUNT 27801 919 443-6622

HIGHSMITH, CHARLES GS /ORS 062
P. O. BOX D L/RT
TROY 27371 919 576-5511

HIGHSMITH, GEORGE PERRY IM 029
309 PINEYWOOD ROAD A AC
THOMASVILLE 27360 919 475-8121

HIGHSMITH, WILLIAM COCHRAN IM 026
410 DRUMHELLER ROAD A L/RT
CLEMMONS 27012 919 766-9905

HIGHTOWER, FELDA GS /TS 034
2445 REYNOLDS DRIVE A L/RT
WINSTON-SALEM 27104 919 727-1661

HILL, ARTHUR THEODORE, JR. IM 011
147 ASHLAND AVENUE A AC
ASHEVILLE 28801 704 258-1188

HILL, DENNIS LEROY N 060
1900 BRUNSWICK AVENUE AC
CHARLOTTE 28207 704 377-9323

HILL, EDWARD FELDIN FP 007
501 W. 15TH ST. AC
WASHINGTON 27889 919 975-2667

HILL, EDWARD GRAY, JR. N/EM 040
606 N. ELM ST. A AC
HIGH POINT 27262 919 889-8877

HILL, HAYWOOD NORTHROP, JR. IM 011
445-BILTMORE CTR., STE. 407 A AC
ASHEVILLE 28801 704 258-0397

HILL, JAMES CARVER FP 092
1316 YUBINARANDA CIRCLE A P R
CARY 27511 919 469-9635

HILL, PATRICIA KAYE P 049
P.O. BOX 821 A AC
STATESVILLE 28677 704 873-8446

HILL, PAUL EDWARD IM /FP 045
559 N. JUSTICE STREET A AC
HENDERSONVILLE 28739 704 692-0587

HILL, STEPHEN THOMAS OBG 044
PO BOX 427 AC
LAKE JUNALUSKA 28745 704 456-7369

HILL, WILLIAM HENRY GP 084
501 HILL BUILDING AC
ALBEMARLE 28001 704 982-5812

HILLER, CARL JULIEN ORS 025
P. O. DRAWER 1694 A * AC
NEW BERN 28560 919 633-3256

HILLERY, CHERYL ANN 032
1418 VALLEY RUN A R
DURHAM 27707 919 489-1601

HINDSLEY, J. PACK, JR. U 007
604 E. 12TH STREET A AC
WASHINGTON 27889 919 946-0136

HINES, EDWARD LLOYD ORS /HS 001
723 EDITH STREET AC
BURLINGTON 27215 919 227-4256

HINES, MICHAEL HERBERT 034
723 FENIMORE ST. A R
WINSTON-SALEM 27103 919 777-0226

HINES, MICHELE L. A. R 026
PO BOX 2324 AC
FAYETTEVILLE 28302 919 483-4938

HINMAN, ALANSON PD 034
792 ROSLYN RD. L/RT
WINSTON-SALEM 27104 919 723-0458

HINMAN, HAVILAH EDWARD OBG 011
7 RATHFARNUM RD. L/RT
ASHEVILLE 28803 704 684-6243

HINN, ALBERT RICHARD 032
1453-B CAMERON CT. A S
WILMINGTON 28401 919 967-7511

HINSHAW, HOWARD THOMAS END /IM 060
1350 S. KINGS DRIVE AC
CHARLOTTE 28207 704 372-8750

HINSON, JAMES NOAH IM 080
102 MOCKSVILLE AVE., STE. 204 A AC
SALISBURY 28144 704 633-3136

HINSON, JONATHAN C. 034
2841 TULLY SQUARE #F A S
2700 REYNOLDA RD.
WINSTON-SALEM 27106 919 723-7554

HINSON, TONY RAY 074
RT. #1, BOX 434 A S
GREENVILLE 27834 919 758-5643

HIPP, EDWARD REGINALD, JR. GS /TS 060
1350 S. KINGS DRIVE AC
CHARLOTTE 28207 704 372-8750

HISLEY, JOHN CHARLES OBG /NPM 060
PO BOX 32861 A AC
CHARLOTTE 28232 704 331-3149

HIX, MARK TIMOTHY IM 033
101 CLINIC DR. A AC
TARBORO 27886 919 823-2105

HOBART, SETH GUILFORD, JR. HNS /MFS 032
1830 HILLANDALE ROAD A AC
DURHAM 27705 919 383-5531

HOBSON, JACK BROWN IM /HEM 060
125 BALDWIN AVE. A AC
CHARLOTTE 28204 704 374-1696

HODGES, HORACE HAYDEN IM /GE 060
ROUTE #1, BOX 102-L L/RT
PINEVILLE 28134 704 588-0828

HODGES, JAMES ROBINSON FP 018
210 13TH AVENUE PLACE, N.W. AC
HICKORY 28601 704 328-2941

HODGES, JAMES THOMAS ORS 001
GRAHAM-HOPEDALE ROAD AC
BURLINGTON 27215 919 227-3621

HODGES, JOSEPH AL, JR. 074
1108 E. 10TH ST., APT. 3-H A S
GREENVILLE 27858 919 758-7626

HODGINS, LEWIS ROGER AN 032
33 LANSGATE COURT A R
DURHAM 27713 919 544-2781

HOEKSTRA, JOHN ARTHUR IM /AI 078
395 W. 27TH STREET A AC
LUMBERTON 28358 919 739-7551

HOELSCHER, KENNETH KING PM 011
PO BOX 15025 A AC
ASHEVILLE 28813 704 274-2400

HOEPPNER, DAVID LAWRENCE EM 065
3710 SHIPYARD AC
WILMINGTON 28403 919 791-0075

HOFFMAN, BYRON JAY, JR. IM 019
421 N. HOLLY STREET A * AC
SILER CITY 27344 919 663-3360

HOFFMAN, CARL MAURICE OBG 040
307 N. LINDSAY STREET A AC
HIGH POINT 27262 919 885-0149

HOFFMAN, CARL WHITE R 078
BARKER--TEN MILE RD. A AC
PO BOX 1527
LUMBERTON 28358 919 739-9788

HOFFMAN, CHARLES ANTHONY, JR. U 026
513 OWEN DRIVE A * AC
FAYETTEVILLE 28304 919 485-8801

HOFFMAN, EDNA TERESA MAURA OBG 026
348 VALLEY ROAD * AC
FAYETTEVILLE 28305 919 485-4755

HOFFMAN, JEFFREY DALE 032
214 HAMLIN PARK A S
CHAPEL HILL 27514 919 968-7604

HOFFMAN, KRISTINA MARIE 032
13-B TARAWA TERRACE A S
DURHAM 27705 919 383-9290

HOFFMAN, MARY JACQUELINE 034
537 S. HAWTHORNE RD. #12 A S
WINSTON-SALEM 27103 919 761-8294

HOFFMAN, RUTH STERLING IM 032
UNC STUDENT HEALTH SERVICE AC
CHAPEL HILL 27514 919 966-2281

HOFFMAN, THEODORE FREDERICK,JR AN 032
ROUTE #4, BOX 286 AC
HILLSBOROUGH 27278 919 470-6180

HOGGARD, WILLIAM ALDEN, JR. FP 070
PO BOX 726 AC
110 S. POOL ST.
ELIZABETH CITY 27909 919 335-0867

HOGSHEAD, RALPH, JR. FP 012
P. O. DRAWER 690 A P * AC
MORGANTON 28655 704 437-8121

HOLBROOK, CARTER TATE, III PHO /PD 074
ECU, DEPT. OF PEDIATRICS A AC
GREENVILLE 27834 919 551-4676

HOLBROOK, JOSEPH SAM IM /CD 049
211 N. RACE STREET A * L
STATESVILLE 28677 704 872-1000

HOLBROOK, ROBERT H. PH /FP 024
RT. 1, BOX 124 R
LAKE WACCAMAW 28450 919 646-4732

HOLBROOK, WILLIAM DOUGLAS P 060
34 LUVAN WAY L/RT
DEBORDIEU COLONY
GEORGETOWN, SC 29440

HOLDERNESS, HOWARD, JR. PS /GS 041
200 E. NORTHWOOD ST., STE. 400 A * AC
GREENSBORO 27401 919 275-0919

HOLLADAY, GLENN CLYDE PD 060
2711 RANDOLPH RD., STE. 301 A AC
CHARLOTTE 28207 704 332-6332

HOLLAND, GEORGE THOMAS 032
1511 ROBINHOOD ROAD A S
DURHAM 27701 919 682-8733

HOLLAND, JAMES EUGENE OPH 074
2573 STANTONSBURG ROAD A AC
GREENVILLE 27834 919 752-0313

HOLLAND, JAMES P. CD 034
2810 MAPLEWOOD AVE. A AC
WINSTON-SALEM 27103 919 768-0437

HOLLAND, MICHAEL DAY IM /NEP 064
529 AVONDALE AVE. * AC
ROCKY MOUNT 27801 919 443-9084

HOLLAND, WALTER BOWLIN OPH 049
IREDELL EYE CLINIC AC
P. O. BOX 1144
STATESVILLE 28677 704 872-4108

HOLLANDER, EDWARD MARSHALL OPH 041
522 N. ELAM AVE. A AC
GREENSBORO 27403 919 854-0393

HOLLEMAN, IVAN LACY, JR. PTH 034
BOWMAN GRAY, DEPT. OF PATH. A AC
WINSTON-SALEM 27103 919 748-4311

HOLLEMAN, JEREMIAH HENRY, JR. GS /VS 060
1350 S. KINGS DR. A AC
CHARLOTTE 28207 704 372-8750

HOLLENBECK, JOHN IVOR GS 060
3535 RANDOLPH RD.,201-W A AC
CHARLOTTE 28211 704 364-8100

HOLLENBERG, BENNETT R. DR 032
2516-6 CRANBROOK LANE A R
CHARLOTTE 28207

HOLLINGSWORTH, WALTER C. OBG 060
1928 RANDOLPH ROAD AC
CHARLOTTE 28207 704 376-1612

HOLLISTER, WILLIAM GRAY P/GPM 032
2008 N. LAKESHORE DRIVE A L/RT
CHAPEL HILL 27514 919 966-5277

HOLMES, GEORGE WASHINGTON ORS 034
4235 STONEHENGE LN. A * L/RT
WINSTON-SALEM 27106 919 722-6939

HOLMES, ROBERT PEEL, III IM 025
702 NEWMAN ROAD AC
MCCARTHY SQUARE
NEW BERN 28560 919 633-5333

HOLSCHER, EDWARD CHARLES CHP /P 060
1900 RANDOLPH ROAD, SUITE 918 AC
CHARLOTTE 28207 704 333-7724

HOLT, CHARLES RICHARD EM /GS 080
17 CAMELOT RD., KINGS FOREST AC
SALISBURY 28144 704 637-7504

HOLT, JAMES BEATTY FP 019
ROUTE #5, BOX 40 AC
PITTSBORO 27312 919 542-3251

HOLT, JAMES DAVID FP 091
308 WILCOX ST. AC
WARRENTON 27589 919 257-3141

HOLT, JOHN PLUMMER FP 011
86 VICTORIA ROAD A AC
ASHEVILLE 28801 704 255-8494

HOLT, THOMAS OPH /OTO 091
209 FAIRVIEW STREET A L
WARRENTON 27589 919 257-3746

HOLT, WILLIAM REUBEN, JR. CD /IM 065
1515 DOCTOR'S CIRCLE A AC
WILMINGTON 28401 919 763-5182

HOLT, WINDSOR AUSTIN OBG 092
1100 DRESSER COURT AC
RALEIGH 27609 919 876-8225

HOLTER, JOHN FREDERICK IM /PUD 074
HIGHWAY 64 WEST A AC
P. O. BOX 310
BETHEL 27812 919 551-4653

HOLTHUSEN, GREGORY GRANT ORS 0
SALEM ORTHOPAEDIC ASSOC. PA A * A
PO BOX 25007
WINSTON-SALEM 27114 919 768-12

HOLTON, WALTER LEGGETT FP 07
NORTH MAIN HIGHWAY A A
PO BOX 1045
MANTEO 27954 919 473-347

HOLYK, PETER ROMAN OPH 02
1916 S. GLENBURNIE RD. A A
NEW BERN 28560 919 638-133

HOMER, STEPHEN HUBERT ORS 03
3111 MAPLEWOOD AVE.,STE.104 A
WINSTON-SALEM 27103 919 768-411

HOMESLEY, HOWARD DAVID GYN /ON 03
DEPT. OF OBG, BOWMAN GRAY A A
WINSTON-SALEM 27103 919 748-402

HONEYCUTT, DANNY MORRIS FP 06
10724 PARK ROAD A A
CHARLOTTE 28210 704 542-657

HONEYCUTT, LATTIE FULLER DR 09
P. O. BOX 17947 A A
RALEIGH 27619 919 872-480

HOOD, CHRISTOPHER KENNEDY OBG 06
1712 E. FOURTH STREET A
CHARLOTTE 28204 704 375-907

HOOD, RICHARD THORNTON, JR. AI 05
1203 COUNTRY CLUB DR. A
KINSTON 28501 919 523-256

HOOKER, MICHAEL PHILLIP AN 01
RT. #5, BOX 771 A A
ASHEVILLE 28803 704 254-196

HOOKS, RICHARD EUGENE GP 07
123 N. SECOND STREET A P A
ST. PAULS 28384 919 865-511

HOOLE, AXALLA JOHN IM 03
UNC, BOX #2, BLDG. 226-H A
CHAPEL HILL 27514 919 966-227

HOOPER, JOSEPH WARD, JR. U 06
2216 GILLETTE DR. A A
WILMINGTON 28403 919 763-625

HOOPER, ROBERT LESLIE R 05
C. J. HARRIS HOSPITAL, INC. A A
SYLVA 28779 704 586-700

HOOPER, THOMAS EUGENE IM 09
INTERNAL MEDICINE ASSOCIATES A A
P. O. BOX 3188
WILSON 27893 919 243-550

HOOTEN, JAMES PHILMON, JR. ORS 03
3535 APOLLO DR. APT. J-213 A
METAIRE, LA 70003

HOOTEN, MARK TAYLOR 03
205-D BOLINWOOD APTS.
500 UMSTEAD
CHAPEL HILL 27514 919 763-094

HOOTS, ELEANOR CARSWELL 034
221 LOCKLAND AVE. A
WINSTON-SALEM 27103 919 722-1325

HOPE, HAROLD PAGAN, JR. GS 06
2300 RANDOLPH ROAD A P A
CHARLOTTE 28207 704 376-0327

HOPKINS, LAWRENCE DAVID OBG 034
5105 RIVER CHASE RIDGE A
WINSTON-SALEM 27104 919 722-9590

HOPKINS, MARBRY BENJAMIN, III PTH 034
300 S. HAWTHORNE RD. A
WINSTON-SALEM 27103 919 748-2624

HOPKINS, RICHARD GLENN GP 045
P.O. BOX 775, WALKER ST. A A
COLUMBUS 28722 704 894-8266

HOPPER, WILLIAM FALCON PUD /IM 041
721 GREEN VALLEY RD. A
GREENSBORO 27408 919 378-0774

HORNBAKE, EARL RODNEY, III IM 025
1700 ST. DELIGHT CHURCH RD. A P * A
NEW BERN 28560 919 633-0363

HORNE, STEPHEN FRANCIS D 064
120 S. PEARL STREET A A
ROCKY MOUNT 27804 919 446-4922

HORNER, DONALD STANLEY OBG /PD 060
1350 S. KINGS DRIVE A
CHARLOTTE 28207 704 372-8750

HORNER, JACK CHENOWTH GS 061
37 PACES WEST PLACE L/RT
ATLANTA, GA 30327 404 237-4651

ORNSTEIN, NORMAN MARK FP 010
P. O. BOX 10968 A L
SOUTHPORT 28461 919 457-6744

ORSLEY, WILLIAM NOLEN FP 036
28 E. WOODROW AVENUE A L
BELMONT 28012 704 825-5376

ORTON, JAMES MARVIN 060
1350 S. KINGS DR. AC
CHARLOTTE 28207 704 372-8750

ORTON, ROBERT MARSHALL FP 092
3039 ESSEX CIRCLE, BLDG. A AC
RALEIGH 27608 919 782-2333

OSEA, ROBERT HAYWOOD OTO /HNS 054
KINSTON CLINIC, SUITE K P AC
KINSTON 28501 919 523-0687

OSKINS, JOHN ROBINSON, III AN 011
7 AMHERST RD. A L/RT
ASHEVILLE 28803 704 274-5049

OSTETLER, HERBERT JAMES AN 063
52 RED FOX RUN AC
PINEHURST 28374 919 295-4606

OUGH, WILLIAM AMOS, III IM 034
410 AVALON ROAD A AC
WINSTON-SALEM 27104 919 768-4730

OUSE, RICHARD JAMES OTO 096
P. O. BOX 291 A AC
SEVEN SPRINGS 28578 919 735-9146

OUSER, FOREST MELVILLE GP 036
410 S. ELM STREET A L/RT
CHERRYVILLE 28021 704 435-6803

OUSTON, FRANK MATT D 041
1030 PROFESSIONAL VILLAGE A AC
GREENSBORO 27401 919 373-1383

OWARD, CORBETT ETHERIDGE TR /D 096
2700 MEDICAL OFFICE PLACE A L
GOLDSBORO 27530 919 734-1866

OWARD, GEORGE ALBERT, III DR 067
100 PRESTON DR. AC
JACKSONVILLE 28540 919 577-1171

OWARD, JAMES FRANCIS, JR. N 032
UNC,751 CLINICAL SCI. 229-H A AC
CHAPEL HILL 27514 919 966-5522

OWARD, JOSEPH COOPER, JR. GS 082
HOSPITAL PROF. BLDG. A AC
CLINTON 28328 919 592-2167

OWARD, KEVIN PRICE FP 079
518 S. VAN BUREN RD., STE. #8 A AC
EDEN 27288 919 623-5171

OWARD, PAUL OSMON FP 053
555 CARTHAGE STREET A P AC
SANFORD 27330 919 774-6518

OWE, DONALD DOUGLAS OBG 036
1225 E. GARRISON BLVD. AC
GASTONIA 28054 704 865-7416

OWE, HAROLD RAGAN, JR. CDS 060
811 MUSEUM DR. R
CHARLOTTE 28207 919 761-1699

OWELL, CHARLES MAITLAND, JR. D 034
340 PERSHING AVENUE * L
WINSTON-SALEM 27103 919 725-8422

OWELL, EDGAR VASTON, JR. ORS 077
400 E. WASHINGTON ST. A P AC
PO BOX 1148
ROCKINGHAM 28379 919 997-4570

OWELL, FREDERICK LAWRENCE U 034
2932 LYNDHURST AVENUE A AC
WINSTON-SALEM 27103 919 765-4021

OWELL, HARRY SLADE, JR. GS /CDS 040
624 QUAKER LANE, SUITE 116-B A AC
HIGH POINT 27262 919 886-4552

OWELL, JULIUS PS /OTO 034
1900 S. HAWTHORNE RD. STE. 480 A * L
WINSTON-SALEM 27103 919 760-1727

OWELL, NELSON NEIL OTO /HNS 060
3535 RANDOLPH ROAD A * AC
CHARLOTTE 28211 704 365-0711

OWERTON, PHILIP THOMAS R 012
2203 S. STERLING ST., STE.176 A AC
MORGANTON 28655 704 438-2250

OWIE, JOHN SANDALL PYA /P 092
3129 ESSEX CIRCLE A AC
RALEIGH 27608 919 782-0616

OWILER, WILLIAM EDWARD, JR. GE 026
1778 METROMEDICAL DRIVE A AC
FAYETTEVILLE 28304 919 323-5203

HOYLE, DAVID EMORY 034
5331 YARDLEY TERRACE A S
DURHAM 27707 919 493-9279

HOYLE, ROBERT MARK 032
ROUTE #4, BOX 69A A S
RUTHERFORDTON 28139 704 286-3335

HSU, NORA HUANG OBG 010
ROUTE #1, BOX 8-B A AC
SUPPLY 28462 919 754-8113

HUBBARD, HAMPTON U 082
WOODSIDE PROF. BLDG. A * AC
CLINTON 28328 919 592-7129

HUBBARD, ROBERT THOMAS FP 011
126 LAKE SHORE DRIVE A RT
ASHEVILLE 28804 704 252-5103

HUBBARD, STEPHEN ADRIAN IM /EM 034
2930 CLUB PARK ROAD A S
WINSTON-SALEM 27104 919 760-1226

HUBBERT, LEROY KARL 032
3234-D CALUMET DR. A S
RALEIGH 27610 919 755-0348

HUCKS-FOLLISS, ANTHONY GEORGE NS 063
P. O. BOX 2000 AC
PINEHURST 28374 919 295-1843

HUDSON, EDWARD VALENTINE OTO 032
1830 HILLANDALE ROAD A AC
DURHAM 27705 919 383-5531

HUDSON, RICHARD PAGE, JR. FOP /PTH 074
ECU SCHOOL OF MEDICINE A AC
DEPT. OF CLINICAL PATHOLOGY
GREENVILLE 27834 919 551-4655

HUDSON, RICHARD WOODARD FP 025
PO BOX 729 A P * AC
BAYBORO 28515 919 745-3191

HUDSON, SARAH TILTON WILLCOX PD 067
12 OFFICE PARK DR. A AC
JACKSONVILLE 28540 919 353-6262

HUDSON, WILLIAM RUCKER OTO 032
DUKE UNIV. MED. CTR. A * AC
DURHAM 27710 919 684-3834

HUDSPETH, ALLEN SHERRILL CDS /TS 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4359

HUDSPETH, DUDLEY ALLEN 032
102 ECHO GLEN DR. E-4 A S
WINSTON-SALEM 27106 919 724-6189

HUEY, THOMAS WALKER, JR. GYN 060
1012 KINGS DRIVE A L
CHARLOTTE 28283 704 375-4216

HUFF, OLSON PD 011
5 FREDERICK STREET * AC
ASHEVILLE 28801 704 258-6091

HUFFINES, WILLIAM DAVIS PTH /GP 032
UNC, 314 BERRYHILL HALL 219-H A AC
CHAPEL HILL 27514 919 966-1134

HUFFMAN, ALLEN WILLIAM, JR. OBG 018
1205 N. CENTER STREET A AC
HICKORY 28601 704 328-2901

HUFFMAN, JOHN MITCHEL, JR. 034
300 S. HAWTHORNE ROAD A S
WINSTON-SALEM 27103 919 722-9378

HUFFMAN, ROBERT EDWARD P 011
146 VICTORIA ROAD A * AC
ASHEVILLE 28801 704 253-3695

HUFFSTUTTER, WILLIAM MAURICE CHN /N 011
50 DOCTOR'S DR. STE. 210 * AC
ASHEVILLE 28801 704 252-8983

HUGGINS, HENRY LAWSON, JR. EM 074
536 19TH AVE. DR., NW A R
HICKORY 28601

HUGHES, CARLISLE BEE, JR. GS 086
RT. 2, BOX 567 A L/RT
YADKINVILLE 27055 919 679-8285

HUGHES, DOREEN L. 034
2047 CRAIG ST. APT. B A * S
WINSTON-SALEM 27103 919 722-5423

HUGHES, JACK U 032
923 BROAD STREET A P * AC
DURHAM 27705 919 286-1297

HUGHES, JAMES LEWIS PD 074
PITT CO. MEM. HOSP. 228-2W A AC
GREENVILLE 27834 919 355-2460

HUGHES, JOE DON OBG 081
P. O. BOX 1208 A * AC
RUTHERFORDTON 28139 704 287-7383

HUGHES, LOREN E. FP 079
402 W. DECATUR AC
MADISON 27025 919 548-9618

HUGHES, LYNN ALLEN OTO 013
11 ARDSLEY AVENUE, N. E. A P AC
CONCORD 28025 704 788-1103

HUGHES, RONALD EUGENE FP /OM 033
PO BOX 760 AC
WHITAKERS 27891 919 437-2171

HUGHES, THOMAS PATRICK GE 034
1901 S. HAWTHORNE RD. #310 A AC
WINSTON-SALEM 27103 919 725-8326

HULKA, GREGORY F. OTO 032
BOX 2875, DUMC S
DURHAM 27710 919 493-8258

HULKA, JAROSLAV FABIAN OBG /OBS 032
UNC, DEPT. OF OB-GYN AC
CHAPEL HILL 27514 919 966-5287

HULL, KEITH LOWELL, JR. N/IM 092
PO BOX 40999 A AC
RALEIGH 27629 919 782-3456

HUMPHREY, JOHN EDWARD, JR. P 060
2040 RANDOLPH RD. AC
CHARLOTTE 28207 704 334-0875

HUMPHREYS, DAVID HARDING PS 011
5 LIVINGSTON AT VICTORIA A AC
PLASTIC SURGERY CTR.
ASHEVILLE 28801 704 253-3866

HUMPHRIES, DAVID SCOTT ORS 060
1350 S. KINGS DRIVE A AC
CHARLOTTE 28207 704 372-8750

HUNDLEY, JAMES DAVENPORT ORS 065
2001 S. 17TH STREET A P * AC
WILMINGTON 28401 919 763-7344

HUNSBERGER, KURT LEE IM 070
1142 N. ROAD STREET A AC
ELIZABETH CITY 27909 919 338-4117

HUNT, CLYDE MCCOY, JR. AN 098
1802 WILDWOOD COURT A AC
WILSON 27893 919 291-1700

HUNT, LOUIS DAVID U 041
200 E. NORTHWOOD STREET A AC
GREENSBORO 27401 919 275-6115

HUNT, OLIVER RAYMOND, JR. CDS /TS 065
1607 DOCTOR'S CIRCLE A * AC
WILMINGTON 28401 919 763-6571

HUNT, THOMAS HOLMES DR /NR 034
3155 MAPLEWOOD AVENUE A * AC
WINSTON-SALEM 27103 919 760-5874

HUNT, WILLIAM BRYCE, JR. PUD /IM 025
P. O. BOX 2157 A AC
NEW BERN 28560 919 633-8608

HUNT, WILLIAM JACK IM 040
720 FERNDALE BLVD. L
HIGH POINT 27260 919 882-9814

HUNTER, BILLY RAY P 034
1328 ASHLEY SQUARE A AC
WINSTON-SALEM 27103 919 765-5092

HUNTER, DAVID MONTGOMERY 034
1615 NORTHWEST BLVD. A S
WINSTON-SALEM 27104 919 724-9568

HUNTER, JAMES EDWARD IM /BE 029
1057 RANDOLPH ROAD A AC
THOMASVILLE 27360 919 475-8121

HUNTER, JOHN BALDWIN GS /GP 023
618 E. MARION STREET A L/RT
SHELBY 28150 704 487-6022

HUNTER, JOHN DANE ON /HEM 065
1202 MEDICAL CENTER DRIVE A * AC
WILMINGTON 28403 919 762-2990

HUNTER, ROBERT MERRILL CDS /TS 092
3020 NEW BERN AVE. A AC
RALEIGH 27610 919 833-8404

HUNTLEY, DANNY EDWARD FP 060
6708 ALBEMARLE RD. AC
CHARLOTTE 28212 704 536-4903

HURDLE, THOMAS GRAY U 026
1786 METROMEDICAL DR. A AC
FAYETTEVILLE 28304 919 485-8151

HURST, DANIEL JOHNSON PUD /IM 034
250 CHARLOIS BLVD. A AC
WINSTON-SALEM 27103 919 768-4730

HURST, DAVID MAURICE R/NM 029
1003 PINE NEEDLE LANE A P AC
THOMASVILLE 27360 919 475-3056

HURT, JOE PAUL PTH /NA 050
163 MONTEITH BRANCH ROAD A AC
SYLVA 28779 704 586-8721

HURWITZ, BARRIE J. N/IM 032
BOX 3184, DUMC A * AC
DURHAM 27710 919 684-4126

HUSSEY, HOWARD SUMMERELL, JR. FP 033
908 ST. ANDREW STREET A L/RT
TARBORO 27886 919 823-2534

HUSSEY, MICHAEL BRUSH NS 040
P. O. BOX 5388 A P * AC
HIGH POINT 27262 919 889-3242

HUTCHESON, JAMES STERLING AI 060
1350 S. KINGS DRIVE AC
CHARLOTTE 28207 704 372-8750

HUTCHINS, CHARLES HUBERT PSF /OTO 036
750 COX ROAD A P AC
GASTONIA 28054 704 867-7212

HUTCHINS, KENNETH RAYMOND U 060
1350 S. KINGS DRIVE AC
CHARLOTTE 28207 704 372-8750

HUTCHINS, ROBERT HAROLD IM 065
2015 S. LIVE OAK PARKWAY AC
WILMINGTON 28403 919 343-8191

HUTCHINSON, FORNEY, III ORS 060
1822 BRUNSWICK AVENUE A AC
CHARLOTTE 28207 704 373-0544

HUTTO, EDITH D 011
E-11 WOODFIELD A RT
ASHEVILLE 28803 704 298-2954

HWANG, YINNAH G. FP 092
PO BOX 425 A AC
ZEBULON 27597 919 269-4101

HYDE, AUSTIN TABER, JR. A/IM 081
NORRIS-BIGGS CLINIC AC
PO BOX 970
RUTHERFORDTON 28139 704 286-9036

HYDE, SAMUEL ELISHA III IM 011
P. O. BOX 9796 A AC
ASHEVILLE 28815 704 298-7911

HYER, RANDALL NELMS 032
1001 NORWOOD AVE. A S
DURHAM 27707 919 383-8602

IBRAHIM, GEORGE KAISSAR 032
11 WILLOWBRIDGE DR. #80 A * S
DURHAM 27707 919 493-3695

IBRAHIM, KAISSAR SLEIMEN GS /CDS 051
712 WILKINS STREET A AC
SMITHFIELD 27577 919 934-2360

IBRAHIM, MOUNIR LABIB P/HYP 034
2900-A MAPLEWOOD AVE. A AC
WINSTON-SALEM 27103 919 768-2886

IFFT, ROBIN DAWN 034
731 LYNN DEE DR. S
WINSTON-SALEM 27106 919 725-3578

IGLEHART, JAMES DIRK GS /TS 032
BOX 3873, DUMC A AC
DURHAM 27710 919 684-6133

IMBODEN, LEY INEZ 074
217 E. WOODSTOCK DR. A S
GREENVILLE 27834 919 756-8735

IMBUS, HAROLD ROGER OM 041
4605-E DUNDAS DRIVE A AC
GREENSBORO 27407 919 845-2303

INABNET, WILLIAM BARLOW OTO /PSF 041
100 E. NORTHWOOD STREET A AC
GREENSBORO 27401 919 275-0507

INGE, WELLFORD W., III 032
311 S. LASALLE ST. APT. 37B A S
DURHAM 27705 919 286-3311

INGRAM, CHARLES HAL GS 040
229 CASCADE DR. L/RT
HIGH POINT 27260 919 886-4552

INGRAM, HAYWOOD MELTON GS 041
1317 N. ELM ST. STE. #5 A AC
P. O. BOX 10037
GREENSBORO 27404 919 274-8444

INGRAM, ROBERT GREGORY IM 041
1100 OLIVE STREET A AC
GREENSBORO 27401 919 378-9906

INJEJIKIAN, JIRAIR ALEXAN TS /GS 023
709 GROVER STREET A AC
SHELBY 28150 704 482-8371

INMAN, CHARLES ERNEST FP 078
1212 S. WALNUT ST. AC
FAIRMONT 28340 919 628-6711

IPAPO, VIRGILIO SORIANO GS /VS 090
1309 E. FRANKLIN ST. AC
MONROE 28110 704 289-3024

IRANI, WALEED NABIL 032
12-D STRATFORD HILLS APTS. A S
CHAPEL HILL 27514 919 929-9907

IRELAND, PATRICK DAVID 034
315 LOCKLAND AVE. A S
WINSTON-SALEM 27103 919 723-2935

IRIGARAY, PETER JOSEPH P 032
JOHN UMSTEAD HOSPITAL A P AC
BUTNER 27509 919 575-7092

IRION, JAMES CARNEY 032
RT. #4, BOX 588, HATCH RD. A S
CHAPEL HILL 27514 919 967-7729

IRONS, CARY FREDERICK, JR. FP 074
1104 W. ROCK SPRING ROAD A L/RT
GREENVILLE 27834 919 752-3423

IRONS, GEORGE VERNON, JR. CD /IM 060
1350 S. KINGS DRIVE A AC
CHARLOTTE 28207 704 372-8750

IRONS, MALENE GRANT PD /GPM 074
1104 W. ROCKSPRING A L/RT
GREENVILLE 27834 919 752-3423

IRONS, THOMAS GRANT PD 074
ECU DEPT. OF PEDIATRICS A AC
GREENVILLE 27834 919 551-2535

IRVING, RICHARD CARROLL AN /GER 045
RT. #9, 2589 HEBRON RD. A * L/RT
HENDERSONVILLE 28739 704 692-9806

IRVING, THOMAS HERBERT AN 049
415 E. BROAD ST. P AC
STATESVILLE 28677 704 872-7364

ISAACS, KIM LUISE IM 032
103 POLK'S TRAIL A R
CHAPEL HILL 27514 919 968-1597

ISBEY, EDWARD KENNETH, JR. OPH 011
495 BILTMORE AVENUE A P * AC
ASHEVILLE 28801 704 258-1586

ISENHOWER, JOSEPH ANDREW FP 018
24 SECOND AVENUE, N.E. A P * AC
HICKORY 28601 704 328-2231

ISRAEL, JAMES RAY P/FP 034
1365 WESTGATE CENTER DR. A AC
SUITE N-1
WINSTON-SALEM 27103 919 760-3220

ISRAEL, JOHN ROBERT PS 011
5 LIVINGSTON STREET AC
ASHEVILLE 28801 704 253-7000

ISSA, MAHMOUD A. GE /IM 067
224 MEMORIAL DR. STE. A AC
JACKSONVILLE 28540 919 577-1444

IVES, DONALD LELAND 032
303-B MASON FARM RD. A S
CHAPEL HILL 27514 919 929-4303

IZLAR, HENRY LEROY, JR. IM /CD 032
306 S. GREGSON STREET A AC
DURHAM 27701 919 682-5562

IZURIETA, HENRY IM 026
514 BEAUMONT ROAD AC
FAYETTEVILLE 28304 919 485-8831

JABEN, SCOTT LEONARD OPH 060
309 S. LAUREL AVE. A AC
CHARLOTTE 28207 704 372-4380

JABLONOVER, MICHAEL RICHARD 032
1915 YEARBY ST., APT. G A S
DURHAM 27705 919 684-5681

JABLONOVER, ROBERT STEPHAN 032
136-A PUREFOY ROAD A S
CHAPEL HILL 27514 919 968-0098

JACKLIN, HAROLD NORMAN OPH 041
1014 N. ELM STREET A P AC
GREENSBORO 27401 919 274-2149

JACKSON, CHARLES THOMAS OBG 060
5950 FAIRVIEW RD., STE. 100 AC
3 FAIRVIEW PLAZA
CHARLOTTE 28210 704 551-4200

JACKSON, DAVID DEWITT GS /CDS 086
P. O. BOX 191 A AC
MOUNT AIRY 27030 919 789-9176

JACKSON, DAVID STONE, JR. FP 034
300 S. HAWTHORNE ROAD A AC
WINSTON-SALEM 27103 919 748-2832

JACKSON, DON VERNON, JR. IM /ON 034
300 S. HAWTHORNE ROAD A AC
WINSTON-SALEM 27103 919 748-2088

JACKSON, DONALD CHARLES R 02
P. O. BOX 2065 A AC
NEW BERN 28560 919 633-505

JACKSON, FREEMAN RANDOLPH R 04
107 ELMWOOD TERR. A * AC
GREENSBORO 27408 919 299-681

JACKSON, JOSEPH ALEXANDER, III OPH 08
800 W. CEMETERY STREET A AC
SALISBURY 28144 704 633-034

JACKSON, MURRAY THREADGILL,JR. R 05
P. O. BOX 1043 A AC
SYLVA 28779 704 586-894

JACKSON, RICHARD DEWITT GS 08
1067 GREENHILL ROAD L/R
MOUNT AIRY 27030 919 786-240

JACOB, WILLIAM MITCHELL DR /R 04
1210 QUAIL COURT AC
ROANOKE RAPIDS 27870 919 535-815

JACOBS, GEORGE DANIEL OBG 03
1225 E. GARRISON BLVD. P AC
GASTONIA 28054 704 865-741

JACOBS, WILLIAM EDWARD PS /GS 06
2215 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 372-684

JACOBSON, MARK DAVID 03
3924 OLD VINEYARD RD., #55 A
WINSTON-SALEM 27104 919 760-338

JACOBSON, PETER LARS N/IM 06
P. O. BOX 1749 A P AC
PINEHURST 28374 919 295-686

JACOBSON, ROBERT CARL AN 09
P. O. BOX 18139 A AC
RALEIGH 27619 919 755-303

JACOBSON, SEVERT HAROLD NS 06
P. O. BOX 2000 A AC
PINEHURST 28374 919 295-129

JACQUES, ROBERT SAMUEL EM /FP 06
P. O. BOX 695 A AC
PITTSBORO 27312 919 295-777

JACUMIN, WALTER JOE R/NM 01
P. O. BOX 700 A AC
VALDESE 28690 704 879-954

JAFFURS, WILLIAM J., JR. EM 07
PO BOX 610 A AC
GRIMESLAND 27837 919 551-475

JAIN, REKHA IM /PD 09
5813 NORTH BOULEVARD AC
RALEIGH 27604 919 878-862

JAMES, CHARLES NEWTON FP 081
P. O. BOX 518 A P AC
CAROLEEN 28019 704 657-537

JAMES, FRANCIS MARSHALL,III AN 034
15 GRAYLYN PLACE LANE A P * AC
WINSTON-SALEM 27106 919 723-469

JAMES, GEORGE W. D 034
205 S. HAWTHORNE ROAD A L
WINSTON-SALEM 27103 919 722-615

JAMES, GEORGE WHITFIELD 034
1900 QUEEN ST. #C-3 A * S
WINSTON-SALEM 27103 919 722-591

JAMES, JOHN CLAY GP 018
ROUTE #3, BOX 436 A AC
MAIDEN 28650 704 428-974

JAMES, JOSEPH MCCRAW R 065
2622 MIMOSA PLACE A AC
WILMINGTON 28403 919 343-706

JAMES, RICHARD THOMAS, JR. IM 060
217 TRAVIS AVENUE A AC
CHARLOTTE 28204 704 372-335

JAMES, ROBERT MITCHELL 074
2704 JEFFERSON DR. A S
GREENVILLE 27834 919 752-2254

JAMES, ROBERT TRUXTON NS 000
305 E. CALHOUN ST. A AC
ANDERSON, SC 29621 803 226-7257

JAMES, ROGER ALLEN FP 011
946 TUNNEL ROAD A * AC
ASHEVILLE 28805 704 298-7981

JAMISON, EDGAR LAMONT OPH /OTO 076
1243 IDLEWOOD RD. A L/RT
ASHEBORO 27203 919 625-6315

JANEWAY, RICHARD N 034
300 S. HAWTHORNE RD. A * AC
WINSTON-SALEM 27103 919 748-4424

JANOSKO, EDWARD ORESTES, II U/N/A 074
224 KING GEORGE ROAD A AC
GREENVILLE 27834 919 752-5077

ANOWSKY, DAVID S. P 032
UNC, DEPT. OF PSYCHIATRY AC
231 MEDICAL SCH. WING B 207H
CHAPEL HILL 27514 919 966-4738

ANTZ, ROBERT JOSEPH FP 062
P. O. BOX 128 AC
MOUNT GILEAD 27306 919 439-5511

ARMAN, FONTAINE GRAHAM, JR. GS 042
12 LONGSTREET ROAD A L/RT
WELDON 27890 919 536-2884

ARMAN, WAYNE THOMAS GS 049
708 HARTNESS ROAD A AC
STATESVILLE 28677 704 873-1024

ARMAN, WILLIAM HENRY, JR. ORS 036
902 COX RD. STE. E A AC
GASTONIA 28052 704 867-2333

AROSAK, PETER JAMES PD 041
THE SAM RAVENEL CLINIC AC
1307 W. WENDOVER AVENUE
GREENSBORO 27408 919 275-6335

ARRAH, AZMI SHAFIQ PD /PNP 012
100 MEDICAL HTS. A AC
MORGANTON 28655 704 433-9630

ARRAHI, ALI P/PH 034
2830 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27103 919 768-2424

ARRELL, WILBURN ERIC FP 086
2007 SALEM ROAD A AC
MOUNT AIRY 27030 919 786-5050

ARRETT, DAVID LINCOLN ORS 011
53 S. FRENCH BROAD ST. A AC
ASHEVILLE 28801 704 252-7180

ARRETT, THOMAS EDWARD IM 040
624 QUAKER LANE, #205A AC
HIGH POINT 27262 919 885-2111

ARVIS, JAMES LUTHER NM /R 036
1516 PINEOLA LANE A AC
GASTONIA 28054 704 864-4378

ASKI, THOMAS JOHN GE /IM 081
NORRIS-BIGGS CLINIC AC
P. O. BOX 970
RUTHERFORDTON 28139 704 286-9036

ASMINE, MARK SCOTT ORS 032
88 OAK LEAF LANE A R
CHAPEL HILL 27514 919 942-2128

AYNES, GRACE S. GP 075
PO BOX 1095 A L/RT
FAIRFIELD, TX 75840 214 389-5662

ECK, LIDA MORAWETZ P 032
800 EASTOWNE DR., STE. 204 AC
CHAPEL HILL 27514 919 493-5329

EFFERS, ROBERT GORDON PD /ADL 092
3803 COMPUTER DR. STE. 207 A AC
RALEIGH 27609 919 782-5273

EFFRIES, JENNIFER JEAN 032
2877 HOSPITAL SOUTH, DUMC A S
DURHAM 27710 919 286-9385

EMSEK, JOSEPH GREGORY ID /IM 060
1350 S. KINGS DR. A AC
CHARLOTTE 28207 704 372-8750

ENKINS, ALBERT MILTON R 092
400 SCOTLAND ST. A * AC
RALEIGH 27609 919 787-4754

ENKINS, JOSEPH MCKENDRIE U 007
604 E. 12TH STREET A * AC
WASHINGTON 27889 919 946-0136

ENKINS, LARRY PARKER OPH 084
121 YADKIN STREET A AC
ALBEMARLE 28001 704 983-1102

ENKINS, SAMUEL GATLIN, JR. GS 070
1142 N. ROAD STREET A AC
ELIZABETH CITY 27909 919 335-4890

ENKINS, STANLEIGH EDWARD, JR. FP 008
501 HAYES STREET A AC
AHOSKIE 27910 919 357-1226

ENKINS, WANDA LOUISE OBG 013
211 LEPHILLIP COURT A AC
CONCORD 28025 704 786-1115

ENNETTE, ALBERT TYSON ORS 098
1700 S. TARBORO ST. A * AC
WILSON 27893 919 291-1300

ENNINGS, ANGELA L. 034
1725-B FRANCISCAN TERR. A S
WINSTON-SALEM 27107 919 788-4844

ENNINGS, JOHN LEE, JR. D 096
BOX 1399, 1100 E. ASH ST. A AC
GOLDSBORO 27533 919 734-0944

JENNINGS, ROBERT BURGESS PTH /CLP 032
BOX 3712, DUMC A AC
DURHAM 27710 919 684-3528

JENNINGS, ROYAL GREEN D 040
624 QUAKER LANE, SUITE 302-B A P * AC
HIGH POINT 27262 919 887-3195

JENSEN, ROGER D. FP 011
491 BILTMORE AVE. A AC
ASHEVILLE 28801 704 258-0670

JEON, MYUNG KIL GP 007
MEDICAL ARTS CENTER AC
PLYMOUTH 27962 919 793-5073

JERARD, D'SOUZA V. 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4435

JESSUP, PAMELA KAY H. FP 053
555 CARTHAGE ST. A P AC
SANFORD 27330 919 774-6518

JETT, HARRIMAN HARDING GS 060
2104 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 377-3900

JEWELL, GARY WELCH OBG 090
1408 FRANKLIN STREET A * AC
MONROE 28110 704 289-2553

JIAMACHELLO, NICHOLAS OBG 026
307 SYLVAN ROAD A RT
FAYETTEVILLE 28305 919 485-8729

JILCOTT, RUPERT WADSWORTH, III IM 054
KINSTON CLINIC NORTH, STE. H A AC
KINSTON 28501 919 522-1404

JOBSON, VERNON WAKEFIELD GYN /ON 034
1901 S. HAWTHORNE RD. STE. 360 A AC
WINSTON-SALEM 27103 919 765-1464

JOHNSEN, ERIC MERRIMAN FP 084
1007 N. 6TH ST. A AC
ALBEMARLE 28001 704 983-3121

JOHNSEN, LYNN IM 026
524 BEAUMONT ROAD A P * L
FAYETTEVILLE 28304 919 484-6080

JOHNSON, ALBIN WILLARD OPH 092
2800 BLUE RIDGE BLVD.,STE. 409 A * AC
RALEIGH 27607 919 781-7400

JOHNSON, ANDREW FINLEY GP 018
2402 SPRINGS ROAD, N.E. A AC
HICKORY 28601 704 256-2185

JOHNSON, ATLEE ROLLINS,III 034
2412 JEFFERSON AVE. A S
WINSTON-SALEM 27103 919 723-3171

JOHNSON, CHARLES ROSS P 092
4000 BLUE RIDGE RD. STE. 100 AC
RALEIGH 27612 919 781-8700

JOHNSON, CHARLES THOMAS, JR. FP 078
222 S. MAIN STREET A AC
RED SPRINGS 28377 919 843-4576

JOHNSON, DAVID SANDER PD 001
530 W. WEBB AVENUE AC
BURLINGTON 27215 919 228-8316

JOHNSON, DONALD CARL OPH 007
P. O. BOX 699 P AC
WASHINGTON 27889 919 946-3111

JOHNSON, DONALD GENE R/NR 065
2212 DELANEY AVENUE A AC
WILMINGTON 28403 919 383-7070

JOHNSON, GALE DENNING GS 043
119 LUCKNOW SQUARE AC
DUNN 28334 919 892-7893

JOHNSON, GEORGE, JR. VS /CDS 032
UNC, DEPT. OF SURGERY 229-H A AC
CHAPEL HILL 27514 919 966-3391

JOHNSON, HARRY WALLACE GYN 041
104 W. NORTHWOOD STREET A * AC
GREENSBORO 27401 919 378-1843

JOHNSON, HEBER WELLINGTON OBG /GS 065
417 BRADLEY CREEK POINT A L
WILMINGTON 28403 919 256-2040

JOHNSON, HENRY WESLEY PD 034
3175 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27103 919 768-7030

JOHNSON, JAMES ALFRED NS 040
606 N. ELM ST. A AC
HIGH POINT 27262 919 889-8877

JOHNSON, JAMES C. DR 000
RD-2 BOX 771 A R
DANVILLE, PA 17821 717 275-2178

JOHNSON, JAMES CLARE P 012
101 WILDWOOD DR. A AC
MORGANTON 28655 704 433-2564

JOHNSON, JAMES ERWIN ORS 026
3308 MELROSE ROAD A P AC
FAYETTEVILLE 28304 919 484-4874

JOHNSON, JAMES NOLEN FP 061
24 DEER PARK LAKE DR. AC
SPRUCE PINE 28777

JOHNSON, JOY MOORING IM 092
4612 GUNSTON PL AC
RALEIGH 27612 919 783-5312

JOHNSON, LESLIE DONALD DR 001
733-G COLONY APARTMENTS A P AC
BURLINGTON 27215 919 227-8111

JOHNSON, MICHAEL DONALD 032
RT. #5, BOX 358-GA A S
CHAPEL HILL 27514 919 929-9775

JOHNSON, PETER GRAHAM FP 062
P. O. BOX 577 AC
MOUNT GILEAD 27306 919 439-6831

JOHNSON, RANDALL DIVAN GS /CDS 011
16 MCDOWELL STREET A AC
ASHEVILLE 28801 704 252-3366

JOHNSON, ROBERT BRUCE D 092
101 CARY PKWY. SW #210 AC
CARY DERMATOLOGY CTR.
CARY 27511 919 467-8556

JOHNSON, RONALD W. FP 011
172 ASHELAND AVE. AC
ASHEVILLE 28801 704 252-1131

JOHNSON, SAMUEL ANDREW 074
APT. #4, CARRIAGE HOUSE A S
GREENVILLE 27834 919 934-2161

JOHNSON, STEPHEN EDWARD EM /IM 092
10501 LEAFWOOD COURT A AC
RALEIGH 27612 919 755-3100

JOHNSON, THOMAS DUANE 074
DOCTORS PARK APTS. U-4 A * S
GREENVILLE 27834 919 758-4458

JOHNSON, THOMAS GARY DR 018
132 35TH AVE., NW A AC
HICKORY 28601 704 327-6342

JOHNSON, THOMAS MILTON FP 051
709 NORTH STREET AC
SMITHFIELD 27577 919 934-8556

JOHNSRUDE, IRWIN STANLEY DR 074
P. O. BOX 328, RTE. #9 A AC
GREENVILLE 27834 919 756-9280

JOHNSTON, DAVID SOMERS ORS 060
1822 BRUNSWICK AVENUE A P AC
CHARLOTTE 28207 704 373-0544

JOHNSTON, FRANK RANDOLPH TS /CDS 034
300 S. HAWTHORNE RD. L/RT
WINSTON-SALEM 27103 919 748-4338

JOHNSTON, FRANK SMITH, JR. IM 092
3900 BROWNING PLACE A AC
RALEIGH 27609 919 781-9650

JOHNSTON, HARVEY WYLIE U 060
101 W. T. HARRIS BLVD. A AC
CHARLOTTE 28213 704 547-1392

JOHNSTON, JAMES WILLIAM OBG 001
KERNODLE CLINIC AC
BURLINGTON 27215 919 227-3621

JOHNSTON, JOHN GARDNER PD 060
1700 ABBEY PLACE A AC
CHARLOTTE 28209 704 523-7232

JOHNSTON, WILLIAM ELLIOTT AN 034
300 S. HAWTHORNE RD. AC
WINSTON-SALEM 27103 919 748-3613

JOHNSTON, WILLIAM WEBB PTH 032
BOX 3712, DUMC A P AC
DURHAM 27710 919 684-3587

JOHNSTONE, WILLIAM MILLER, JR. 074
1608 BEAUMONT DR. A * S
GREENVILLE 27858 919 758-7213

JOLLY, BRANTLEY TILMAN, JR. GS 034
101 HOMESTEAD RD. APT. 804 A S
CHAPEL HILL 27514 919 967-0970

JOLLY, THOMAS LYNN FP 034
1500 W. ACADEMY ST. A R
WINSTON-SALEM 27103 919 727-0550

JOLLY, WILLIAM OSCAR, III FP 084
320 YADKIN STREET A AC
ALBEMARLE 28001 704 982-9144

JONAS, JAROSLAV GEORGE ORS 011
20 BEAVERBROOK ROAD A AC
ASHEVILLE 28804 704 255-0510

JONES, ALBERT MCCRAY OBG 007
ROUTE #5, BOX 14 AC
WASHINGTON 27889 919 946-6544

JONES, BILLY ERNEST D 074
ECU DEPT. OF MEDICINE A AC
GREENVILLE 27834 919 551-2555

JONES, CHAMP MCMILLIAN, JR. FP 034
2805 LYNDHURST AVE. AC
WINSTON-SALEM 27103 919 768-8890

JONES, CHRISTOPHER 074
408 ROTARY AVE. A S
GREENVILLE 27858 919 752-5110

JONES, CLARA ISELEY GP 001
815 S. FIFTH ST. L/RT
MEBANE 27302 919 563-1080

JONES, CLAYTON JOE GYN 013
107 COUNTRY CLUB DRIVE A AC
CONCORD 28025 704 786-7158

JONES, COLIN DOUGLAS FP 008
ACADEMY STREET A * AC
AHOSKIE 27910 919 332-6138

JONES, CONSTANCE CARPENTER 032
415 PRINCE CROSSING 0-5 A S
WEST CHICAGO, IL 60185 919 968-0023

JONES, CRAIG S. GS 023
4051 GULFSHORE BLVD. N'PH-205 A L
NAPLES, FL 33940 813 261-5609

JONES, DAVID CRAVEN FP 001
202 S. FIFTH STREET A AC
MEBANE 27302 919 563-9341

JONES, DAVID HERMAN OPH 092
3900 BROWNING PLACE * AC
RALEIGH 27609 919 787-2758

JONES, DAVID RAY 074
1046 E. ROCK SPRING RD. A S
GREENVILLE 27834 919 758-0812

JONES, DENNIS EBLEN DARNELL OBG 074
ECU SCHOOL OF MEDICINE AC
GREENVILLE 27858 919 551-4610

JONES, DONNIE HUE, JR. GP 051
P. O. BOX 158 A AC
PRINCETON 27569 919 936-5171

JONES, FRANK COLLINS, JR. GS 050
KILIMANJARO MED. CTR H
THE GOOD SAMARITAN FOUNDATION
MOSHI,TANZANIA, E.AFRICA 704 586-6665

JONES, FRANKLIN D. NS 074
125 MOYE BLVD. A AC
GREENVILLE 27834 919 551-5156

JONES, GREGORY LEE FP 098
2104 HERMITAGE RD. A AC
WILSON 27893 919 238-2407

JONES, HARVEY MICHAEL PTH /CLP 091
ROUTE #3, BOX 25W AC
HENDERSON 27536 919 492-4477

JONES, J. WESLEY GE /IM 026
1314 MEDICAL DR., STE. 102 A P AC
FAYETTEVILLE 28304 919 323-2477

JONES, JAMES BUCKNER IM /PUD 060
3535 RANDOLPH ROAD A AC
CHARLOTTE 28211 704 365-0760

JONES, JAMES DAVID CHP /PD 032
BOX 3115, DUMC AC
DURHAM 27710 919 684-2372

JONES, JAMES DAVID, II AN 034
321 BANBURY ROAD A AC
WINSTON-SALEM 27104 919 773-3259

JONES, JAMES GRADY FP 074
P. O. BOX 1846 A P AC
GREENVILLE 27835 919 551-2600

JONES, JAMES MARSHALL, JR. IM 034
1225 E. FIFTH STREET AC
WINSTON-SALEM 27101 919 725-7362

JONES, JEFFREY DAVID GE /IM 098
1205 GREENBRIAR COURT A AC
WILSON 27893 919 291-7001

JONES, JERRY ANTHONY IM /GE 060
2021 E. 7TH ST. AC
CHARLOTTE 28204

JONES, JOSEPH KEMPTON FP 032
1001 S. HAMILTON ROAD A P * AC
CHAPEL HILL 27514 919 968-4551

JONES, JOSEPH REID, JR. GP 034
P. O. BOX 387 A AC
KING 27021 919 983-3113

JONES, MARTIN E. GP 014
CHURCH BUILDING A P AC
GRANITE FALLS 28630 704 396-1112

JONES, MARY MCKEEL FP 023
BRANCH'S ESTATES, BOX 76 A R
GREENVILLE 27834 919 756-6398

JONES, MICHAEL CHARLES GS 045
835 FLEMING STREET A AC
HENDERSONVILLE 28739 704 692-0238

JONES, MORRIS ALEXANDER, JR. R 032
3643 N. ROXBORO ST. A AC
DURHAM 27704 919 471-3411

JONES, NORMAN NESBETH GP /GE 041
P. O. BOX 21886 A AC
GREENSBORO 27420 919 274-0097

JONES, O. HUNTER OBG 060
232 PERRIN PLACE A L
CHARLOTTE 28207 704 333-0455

JONES, ROBERT BOYD OTO 065
2311 DELANEY ROAD A * AC
WILMINGTON 28403 919 762-8754

JONES, ROBERT S.,JR.-BOBBY FP 023
113 GROVER STREET A AC
SHELBY 28150 704 487-5228

JONES, ROBERT SPURGEON FP 023
113 GROVER STREET A * AC
SHELBY 28150 704 487-5228

JONES, SARA THOMPSON AN 034
321 BANBURY ROAD A P * AC
WINSTON-SALEM 27104 919 768-8987

JONES, STEPHEN WATSON FP 023
BRANCH'S ESTATES, BOX 76 A R
GREENVILLE 27834 919 756-6398

JONES, THADDEUS LEROY PTH /HEM 034
3333 SILAS CREEK PARKWAY A P * AC
WINSTON-SALEM 27103 919 773-3840

JONES, THOMAS THWEATT GP 032
1202 ARNETT A L/RT
DURHAM 27707 919 489-2115

JONES, WILLIAM ROBERT GP 064
600 SUNSET AVENUE A AC
ROCKY MOUNT 27801 919 446-4921

JONNALAGADDA, M. RAO P/PH 096
CHERRY HOSPITAL A P AC
CALLER BOX 8000
GOLDSBORO 27530 919 731-3206

JORDAN, BARBARA MOORE P 078
207 W. 29TH STREET A AC
LUMBERTON 28358 919 738-5261

JORDAN, CHARLES DANIEL FP 074
PO BOX 652 A L
BETHEL 27812 919 551-6841

JORDAN, HENRY DAVIDSON PTH 065
P. O. BOX 9000 A P AC
WILMINGTON 28402 919 343-7074

JORDAN, LYNDON KIRKMAN FP 051
P. O. BOX 760 A * AC
SMITHFIELD 27577 919 934-7687

JORDAN, RICHARD DORN R 080
7 PINETREE ROAD A * AC
SALISBURY 28144 704 633-1022

JORDAN, RICHARD LIMING FP 078
2608 N. ELM STREET A AC
LUMBERTON 28358 919 738-9381

JORDAN, RILEY MOORE FP 047
116 CAMPUS AVENUE AC
RAEFORD 28376 919 875-5151

JORDAN, ROBERT CALHOUN, JR. R 053
P. O. BOX 1007 A P AC
SANFORD 27330 919 776-1210

JORDAN, THOMAS E. OTO 032
39 GEORGETOWN COURT A R
DURHAM 27705 919 684-6968

JORDAN, WELDON HUSKE IM 026
114 BROADFOOT AVENUE A AC
FAYETTEVILLE 28305 919 484-3261

JORDAN, WILLIAM RAND U 026
1786 METROMEDICAL DRIVE AC
FAYETTEVILLE 28304 919 485-8151

JORIZZO, JOSEPH L. D 034
300 S. HAWTHORNE RD. A AC
DEPT. OF DERMATOLOGY
WINSTON-SALEM 27103 919 748-2768

JOSEPH, MICHAEL C. PD 032
5716 GENESSEE DR. AC
DURHAM 27712 919 471-3278

JOYCE, CHARLES WELDON GP 079
401 W. DECATUR ST. * AC
MADISON 27025 919 548-9618

JOYCE, DONALD GEORGE ORS 060
3535 RANDOLPH ROAD, SUITE 103 A AC
CHARLOTTE 28211 704 365-2111

JOYCE, GEORGE WILLIAM IM /NEP 040
624 QUAKER LANE, SUITE 213-B A AC
HIGH POINT 27262 919 883-4131

JOYNER, GEORGE WILLIAM GS 076
375 LEXINGTON ROAD A L/RT
ASHEBORO 27203 919 625-6465

JOYNER, RAYMOND EDWARD U 032
923 BROAD STREET A AC
DURHAM 27705 919 286-1297

JOYNER, RONNIE STEPHEN OBG 025
3631 WEDGEWOOD DRIVE A AC
NEW BERN 28560 919 633-3942

JOYNER, SAMUEL BALFOUR IM 041
200 E. NORTHWOOD STREET A P AC
GREENSBORO 27401 919 274-7609

JOYNER, WILLIAM STAFFORD FP 032
1001 S. HAMILTON ROAD A * AC
CHAPEL HILL 27514 919 968-4551

JUENGEL, PAUL H., III OTO /PSF 001
1206 VAUGHN RD. A * AC
BURLINGTON 27215

JUER, ROBERT CRAIG FP 039
TELECOM DR. A AC
CREEDMOOR 27522 919 528-1535

JULIAN, JESSE STEPHENS, JR.
614 BELLVIEW ST. A R
WINSTON-SALEM 27103 919-760-2866

JURIVICH, DONALD ALBERT IM /GER 032
508 FULTON ST. A R
DURHAM 27710 919 286-0411

JUST, PETER WITHAM AN 032
ROUTE #3, BOX 157 A R
CHAPEL HILL 27514 919 929-9630

JUSTA, SAMUEL HARRY GP 064
3546 S. OCEAN BOULEVARD A L
PALM BEACH, FL 33480

JUSTIS, HOMER RODEHEAVER U 060
1012 KINGS DRIVE A AC
CHARLOTTE 28283 704 334-6449

KAASA, LAURIN JUUL PTH 092
3000 NEW BERN AVENUE A L
RALEIGH 27610 919 755-8260

KABASAN, DENNIS CLARK IM 053
1951 S. HORNER BLVD. * AC
SANFORD 27330 919 774-4123

KABLE, KELVIN DUANE AM /OM 013
927 BURRAGE ROAD A AC
CONCORD, ND 28025 704 788-5110

KADYK, JAN MARC ORS 095
30 DOCTOR'S PARK A * AC
BOONE 28607 704 264-1100

KAHL, FREDERIC ROSS CD /IM 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4261

KAHN, JOSEPH WILLIAM FP 056
P. O. BOX 147 L/RT
FRANKLIN 28734 704 524-4427

KAHN, ROBERT CHARLES GS 008
416 CIRCLE DRIVE A AC
AHOSKIE 27910 919 332-2244

KAHN, ROBERT HOWARD D 036
1072 X-RAY DR. AC
PO BOX 3598
GASTONIA 28053 704 864-8386

KALAYJIAN, ROBERT WAYNE AN 032
DUMC,DEPT.OF AN,BOX AA3061 A AC
DURHAM 27710 919 684-5265

KALDY, PATRICIA MARIE FP 013
P. O. BOX 1058 A AC
MOUNT PLEASANT 28124 704 436-6521

KALINA, KENT MICHAEL P 060
2915 PROVIDENCE RD., STE. 400 A AC
CHARLOTTE 28211 704 376-2810

KALLIANOS, JOHN ANDREW 032
4800 UNIVERSITY DR. 23M A R
DURHAM 27707 919 493-4308

KALLMAN, HAROLD FP /GER 074
ECU DEPT.OF FAMILY MEDICINE A AC
GREENVILLE 27834 919 551-2597

AMM, RICK RANDE OBG 092
3805 COMPUTER DR. A AC
RALEIGH 27609 919 781-6200

AMP, MAURICE ARTHUR PH /GPM 060
1400 DREXEL PLACE A
CHARLOTTE 28209 704 525-3468

ANDL, LOUIS CHARLES IM /ID 084
331 N. FIRST ST. AC
ALBEMARLE 28001 704 982-2189

ANE, RICHARD DOUGLAS U 092
390L COMPUTER DR. A AC
WAKE UROLOGICAL
RALEIGH 27609 919 781-5104

ANG, JOON FP 098
P. O. BOX 218, MAIN STREET AC
BAILEY 27807 919 235-4181

ANICH, ROBERT EMIL PTH 092
4420 LAKE BOONE TRAIL A AC
RALEIGH 27607 919 755-3057

ANNON, GEORGIA ANN 074
114-A HUNTING RIDGE RD. A S
GREENVILLE 27834 919 758-2940

ANOF, ELIZABETH PASCHER D 092
3400 EXECUTIVE DRIVE A P * AC
RALEIGH, N, C. 27609 919 878-0310

APLAN, DAVID LOUIS D/IM 032
3064-A COLONY RD. R
DURHAM 27705 919 489-1106

APLAN, JEFFREY MARK R 067
ONSLOW MEMORIAL HOSPITAL P AC
P. O. BOX 1358
JACKSONVILLE 28541 919 577-2345

APLAN, RICHARD DAVID OBG 041
408 PARKWAY DR. A P AC
GREENSBORO 27401 919 378-1110

APLAN, TODD M. 032
1315 MORREENE RD. 3-A A S
DURHAM 27705 919 383-3735

APLOWITZ, GARY L. ORS 091
RUIN CREEK ROAD A P AC
MEDICAL SERVICE BLDG.
HENDERSON 27536 919 438-3186

APORDELIS, GREGORY C. PDS /GS 034
3319-L CIRCLE BROOK DR. SW A S
ROANOKE, VA 24014 703 774-4675

ARAM, MICHAEL QUSTANDI IM /ON 092
3801 COMPUTER DR., STE. 212 AC
RALEIGH 27609 919 781-2643

ARB, KENNETH SAMUEL ON /IM 041
1007 PROFESSIONAL VILLAGE AC
GREENSBORO 27401 919 272-2141

ARIS, JOANNES HUBERTUS AN 032
BOX 3071, DUMC A * AC
DURHAM 27710 919 681-6944

ASH, STEPHEN LEE OPH 065
1120 MEDICAL CENTER DRIVE A AC
WILMINGTON 28401 919 763-7316

ASIK, LEE AN 041
215 MANCHESTER PL. AC
GREENSBORO 27410 919 299-6343

ASTNER, ROBERT JEFFREY FP /EM 070
RT. #1, BOX 229 A AC
NAGS HEAD 27959 919 441-7111

ATARIA, SUDESH PD 074
ECU DEPT. OF PEDIATRICS AC
GREENVILLE 27834 919 551-2535

ATARIA, YASH PAL PUD /IM 074
ECU DEPT. OF MEDICINE A AC
GREENVILLE 27834 919 551-4653

ATH, PHILIP DOUGLAS OPH 012
335 E. PARKER ROAD AC
MORGANTON 28655 704 433-6220

ATZ, EDWARD KENNETH P/PYM 074
ECU SCHOOL OF MEDICINE A AC
GREENVILLE 27858 919 551-2663

ATZ, JEFFREY DAVID CD /IM 041
721 GREEN VALLEY RD. A P AC
GREENSBORO 27408 919 378-0774

ATZ, SAMUEL LAWRENCE PD /ID 032
BOX 2925, DUMC AC
DURHAM 27710 919 684-3734

AUFMAN, DAVID GORDON PTH 032
UNC, DEPT. OF PATHOLOGY AC
CHAPEL HILL 27514 919 966-1396

AUFMAN, JEFFREY 032
311 S. LASALLE ST. APT. 50B A S
DURHAM 27705 919 286-3719

KAUFMAN, MICHAEL DAVID N/GPM 060
126 COTTAGE PLACE A AC
CHARLOTTE 28207 704 334-7311

KAYE, DOUGLAS EVAN 034
1900 QUEEN ST. APT. A3 A S
WINSTON-SALEM 27103 919 724-6289

KAYYE, PAUL THOMAS P/CHP 092
325 N. SALISBURY ST. AC
RALEIGH 27611 919 733-7011

KEAGY, BLAIR ALLEN TS /CDS 032
UNC, 108 BURNETT-WOMACK A AC
229-H
CHAPEL HILL 27514 919 966-3381

KEARNEY, THOMAS 067
5004 OCEAN DRIVE A AC
EMERALD ISLE 28557

KEARNS, PAUL RUTHERFORD OBG 049
750-H HARTNESS ROAD AC
STATESVILLE 28677 704 872-6389

KEATHLEY, FRANKLIN BURR D/A 036
224 NEW HOPE ROAD A AC
GASTONIA 28052 704 867-0773

KEATING, ROBERT JOSEPH 034
300 S. HAWTHORNE RD. S
WINSTON-SALEM 27103 919 722-0875

KEEL, JAMES FRANKLIN, III IM 013
68 LAKE CONCORD ROAD, N.E. AC
CONCORD 28025 704 782-3135

KEELING, J. WAYNE ORS 079
307 W. MOREHEAD STREET A * AC
REIDSVILLE 27320 919 342-6116

KEENER, JOSEPH KEITH NEP /IM 092
101 DURYER COURT AC
CARY 27511 919 782-3378

KEENEY, GLENWARD THOMAS OBG 026
1219 WALTER REED ROAD A AC
FAYETTEVILLE 28304 919 323-2103

KEENEY, RONALD ERIC PD /ID 092
5 MOORE DR., GLAXO, INC. A AC
RESEARCH TRIANGLE PK 27709 919 248-2568

KEEVER, RICHARD ALAN OTO 040
624 QUAKER LN., STE. 301-D A AC
HIGH POINT 27262 919 883-1366

KEIPPER, VINCENT LEE MCCALLA IM 013
56 ARDSLEY AVENUE, N. E. A * AC
CONCORD 28025 704 782-1101

KEITH, JULIAN FAISON, JR. FP 034
BOWMAN GRAY-FAMILY MED. A AC
WINSTON-SALEM 27103 919 748-2251

KEITH, THEODORE ALLEN CD 034
2810 MAPLEWOOD AVE. A AC
WINSTON-SALEM 27103 919 768-0437

KEITHAHN, STEPHEN TIMOTHY 032
BOX 2760, DUMC A S
DURHAM 27710 919 493-1678

KELEHER, MICHAEL FRANCIS GS 011
18 MAYWOOD ROAD A L/RT
ASHEVILLE 28804 704 254-1835

KELEMEN, WILLIAM ARTHUR IM 060
1928 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 334-1086

KELLAM, DONALD SWIFT, JR. ORS 060
120 PROVIDENCE ROAD A AC
CHARLOTTE 28207 704 377-0351

KELLAR, LISA COLLIER 034
BOWMAN GRAY SCH. OF MED. S
STUDENT BOX 100
WINSTON-SALEM 27103 919 748-8318

KELLER, CHARLES AUGUSTUS, JR. CDS 011
257 MCDOWELL STREET A P AC
ASHEVILLE 28803 704 258-1121

KELLER, GUY OTIS GS 060
3535 RANDOLPH RD., STE. 200-A AC
CHARLOTTE 28211 704 364-2500

KELLER, TED STEVEN NS 018
420 N. CENTER ST. A AC
HICKORY 28601 704 327-4818

KELLEY, JOHN SIMPSON IM /CD 092
3100 BLUE RIDGE RD. A AC
RALEIGH 27607 919 781-7500

KELLEY, THOMAS FRANCIS FP 084
320 YADKIN STREET A AC
ALBEMARLE 28001 704 982-9144

KELLEY, TIMOTHY FRANCIS 034
448 S. HAWTHORNE RD. A S
WINSTON-SALEM 27103 919 722-5371

KELLING, DOUGLAS GEORGE, JR. IM /PUD 013
68 LAKE CONCORD ROAD, N. E. A P AC
CONCORD 28025 704 782-3135

KELLY, DAVID L., JR. NS 034
BOWMAN GRAY-NEUROSURGERY A AC
WINSTON-SALEM 27103 919 748-4049

KELLY, JAMES REGINALD IM 032
306 S. GREGSON STREET A AC
DURHAM 27701 919 682-5561

KELLY, JEFFREY EM /AN 034
406 CLIFFDALE DR. A R
WINSTON-SALEM 27104 919 768-8280

KELLY, JOHNSON HALL U 023
1306 VISTA DRIVE A AC
SHELBY 28150 704 482-2011

KELLY, LUTHER W., JR. END /NM 060
1350 S. KINGS DR. A * AC
CHARLOTTE 28207 704 372-8750

KELLY, RICHARD BRUCE FP 011
5-7 DOCTOR'S PARK AC
ASHEVILLE 28801 704 258-0670

KELLY, ROBERT GEORGE FP 034
2805 LYNDHURST AVENUE AC
WINSTON-SALEM 27103 919 768-8890

KELLY, WILLIAM SHERWOOD FP 034
116 S. MAIN ST. A AC
KERNERSVILLE 27284 919 993-2224

KELSH, JAMES MICHAEL GS 033
101 CLINIC DRIVE A AC
TARBORO 27886 919 823-2105

KEMPNER, WALTER IM 032
BOX 3099, DUMC A L/RT
DURHAM 27710 919 684-2675

KEMPTON, LEO V. P 016
710 ARENDELL ST. AC
PO BOX 3632
MOREHEAD CITY 28557 919 247-6160

KENAN, LEROY FULTON FP 092
3801 COMPUTER DRIVE AC
RALEIGH 27609 919 787-0302

KENAN, PATRICK DAN OTO 032
DUKE, DIV. OF OTOL. A * AC
DURHAM 27710 919 684-5238

KENDALL, BENJAMIN HORTON CD 023
315 WESTFIELD RD. L/RT
SHELBY 28150 704 487-7208

KENDALL, JOHN HAROLD GP 082
715 STEWART AVENUE A L
CLINTON 28328 919 592-2161

KENDRICK, PAUL WAYNE NEP /IM 074
6 DOCTORS PARK A P AC
STANTONSBURG ROAD
GREENVILLE 27834 919 752-8880

KENNEDY, CHARLIE LEE PD 034
501 N. CLEVELAND AVE. A AC
WINSTON-SALEM 27101 919 725-0514

KENNEDY, REBECCA S. 032
315-A BLUERIDGE RD. A R
CARRBORO 27510 919 929-9861

KENNEDY, THOMAS FRANCIS R 011
P. O. BOX 2959 A AC
ASHEVILLE 28802 704 254-4617

KENNEDY, WILLARD LEE CD /IM 092
3400 EXECUTIVE DR., STE. 201 A P AC
RALEIGH 27609 919 872-8920

KENNEY, RICHARD DREW PD /ADL 060
1000 BLYTHE BLVD. A AC
PO BOX 32861
CHARLOTTE 28234 704 338-3156

KENNY, JEAN BRYCE FELTY PD /ID 074
ECU DEPT. OF PEDIATRICS AC
GREENVILLE 27858 919 551-2511

KEPLEY, MICHAEL AVERY OBG 049
750-H HARTNESS RD. AC
STATESVILLE 28677 704 872-6389

KEPPLER, C. BURTON AN 045
334 BROOKSIDE CAMP RD. A AC
HENDERSONVILLE 28739 704 692-8688

KERANEN, VICTOR JOSEPH NS 026
3314 MELROSE ROAD, SUITE 104 A P AC
FAYETTEVILLE 28304 919 484-9802

KERBY, GRACE PARDRIDGE RHU 032
164 N. W. 18TH COURT A L/RT
MIAMI, FL 33125

KERLEY, ROGER KENNY IM 086
708 S. SOUTH STREET A AC
P. O. BOX 1547
MOUNT AIRY 27030 919 786-6146

KERMON, LOUIS TODD IM /CD 092
2708 PEACHTREE ST. L/RT
RALEIGH 27608 919 782-2333

KERNODLE, CHARLES EDWARD, JR. GS 001
603 ISLEY PLACE, APT. D A L/RT
BURLINGTON 27215 919 226-4598

KERNODLE, DONALD REED OPH /OTO 001
KERNODLE CLINIC A AC
BURLINGTON 27215 919 227-3621

KERNODLE, DWIGHT TALMADGE IM 001
KERNODLE CLINIC A * AC
BURLINGTON 27215 919 227-3621

KERNODLE, GEORGE W., JR. RHU /IM 001
316 N. GRAHAM-HOPEDALE RD. A AC
BURLINGTON 27215 919 227-3621

KERNODLE, GEORGE WALLACE PD 001
MEDICAL CTR PHARMACY BLDG * AC
BURLINGTON 27215 919 226-7608

KERNODLE, HAROLD BARKER, JR. ORS 001
316 N. GRAHAM-HOPEDALE RD. AC
BURLINGTON 27215 919 227-3621

KERNODLE, JOHN ROBERT GYN 001
2465 EDGEWOOD AVE. A P L/RT
BURLINGTON 27215 919 584-7075

KERR, COLIN PAUL FP /LM 074
ECU SCHOOL OF MEDICINE A AC
PO BOX 1846
GREENVILLE 27835 919 551-4611

KERR, ROBERT MORTON GE /IM 034
BOWMAN GRAY, DEPT. OF MED. AC
WINSTON-SALEM 27103 919 748-4602

KESLER, ARCHIE DEAN, JR. OBG 053
109-A S. VANCE STREET A AC
SANFORD 27330 919 775-2304

KESLER, JAMES L. OPH 065
1120 MEDICAL CENTER DRIVE A * AC
WILMINGTON 28401 919 763-7316

KESSLER, J. PATRICK ORS 018
912 SECOND ST., NE A P AC
HICKORY 28601 704 324-2800

KEY, STEVEN PAUL 034
300 S. HAWTHORNE RD., BOX 374 A * S
WINSTON-SALEM 27103 919 777-0769

KEYES, KENNETH SHOCKLEY OTO /HNS 034
1420 PLAZA DRIVE A * AC
WINSTON-SALEM 27103 919 765-4922

KEYSERLING, THOMAS CHARLES IM 093
542 W. RIDGEWAY ST. A R
WARRENTON 27589 919 257-3141

KHAN, MUSHTAQ HUSSAIN GS /GP 010
ROUTE #3, BOX 23 A AC
SUPPLY 28462 919 754-8115

KHATRI, DAVE IM /GER 011
549 MERRIMON AVENUE AC
ASHEVILLE 28801 704 253-5685

KHOSHNEVIS, PARVIZ OBG 077
PO BOX 1715 A AC
ROCKINGHAM 28379 919 997-3151

KICHERER, HARRY JAY R 063
885 ST. ANDREWS DR. A P AC
PINEHURST 28374 919 295-1706

KIFFNEY, GUSTIN THOMAS, JR. OPH 032
1106 HILLANDALE ROAD A AC
DURHAM 27705 919 286-9663

KIHLSTROM, BRUCE LEE NS /GS 032
1830 HILLANDALE ROAD A * AC
DURHAM 27705 919 383-5531

KILBRIDE, KEVIN ANTHONY P/GP 012
BOX 114, BROUGHTON HOSPITAL A AC
MORGANTON 28655 704 433-2476

KILBY-SIMPSON, MARTHA ANN 034
420 BRIARLEA RD. A S
WINSTON-SALEM 27104 919 768-2403

KILBY, LARRY SHELTON FP /GER 097
505 13TH ST. AC
LOFLAND BLDG.
NORTH WILKESBORO 28659 919 667-3922

KILEFF, MOYRA ELEANOR AN 032
403 CLAYTON ROAD AC
CHAPEL HILL 27514 919 968-0611

KILEY, JAMES WILLIAM OPH 092
3320 EXECUTIVE DR. A P * AC
RALEIGH 27609 919 876-2427

KILGORE, LARRY CHARLES FP 026
1430 BERKSHIRE RD. A AC
FAYETTEVILLE 28304

KILLAM, ALLEN PAGE OBG /NPM 032
4044 NOTTAWAY A AC
DURHAM 27707 919 684-2876

KILLIAN, JOHN HUME OPH 011
276 E. CHESTNUT STREET A * AC
ASHEVILLE 28801 704 255-8978

KILPATRICK, WILBUR KIRBY, JR. OBG 063
P. O. BOX 2000 A AC
PINEHURST 28374 919 295-1391

KIM, KYUNG-HWAE OBG 007
P. O. BOX 190 A AC
PLYMOUTH 27962 919 793-1194

KIM, SARAH AI 026
1317 MEDICAL DR. STE. #3 A P AC
FAYETTEVILLE 28304 919 323-3890

KIM, TONG SU P 018
612 THIRD AVENUE, NE A P AC
HICKORY 28601 704 324-9900

KIM, WILLIAM NO CHUN OBG /OM 026
1317 MEDICAL DR. STE. #3 A AC
FAYETTEVILLE 28304 919 323-3890

KIM, YOUNG CUE IM 092
209 W. MILLBROOK ROAD A AC
RALEIGH 27609 919 781-5933

KIMBERLY, GEORGE DOUGLAS FP 034
PO BOX 1047 A AC
MOCKSVILLE 27028 704 634-1124

KIMBRELL, ODELL C., JR. IM /END 092
240 BRYAN BUILDING A AC
RALEIGH 27605 919 828-6393

KIMBROUGH, HOUSTON MAGILL, JR. U/GS 041
1025 PROFESSIONAL VILLAGE A P AC
GREENSBORO 27401 919 272-3962

KINARD, JAMES DONALD 074
33 WEST HILLS TOWNHOMES A S
GREENVILLE 27834 919 852-6384

KINDSCHUH, PETER MICHAEL OBG 024
BALDWIN WOODS AC
WHITEVILLE 28472 919 642-6848

KING, DANA EDWIN FP 008
PO BOX 297 A AC
GATESVILLE 27938 919 357-1226

KING, DUNCAN INGRAHAM C. FP 045
506 7TH AVENUE, WEST A L
HENDERSONVILLE 28739 704 693-5331

KING, FRANCIS PARKER IM 025
210 WILSON POINT A RT
NEW BERN 28560 919 637-5411

KING, GLENDALL LEE ORS 036
902 COX ROAD, SUITE A A * AC
GASTONIA 28054 704 865-6487

KING, HARRY LEE OTO /HNS 018
PO BOX 2186 A AC
HICKORY 28603 704 322-5120

KING, JAMES LEROY AN 092
2700 KINGSLEY RD. A P * AC
RALEIGH 27612 919 833-5085

KING, JOHN TALBERT PD /CD 001
404 EDINBURGH DR. A RT
BURLINGTON 27215 919 226-5197

KING, JOSEPH JOHN, JR. ORS 090
701 ROOSEVELT BLVD., BLDG.600 A AC
MONROE 28110 704 289-4595

KING, LOWELL RESTELL U/PD 032
BOX 3831, DUMC A AC
DURHAM 27710 919 684-6994

KING, MICHAEL BRIAN CD /IM 054
313 AIRPORT ROAD AC
KINSTON 28501 919 522-2578

KING, MICHAEL EUSTERMAN ORS 034
3111 MAPLEWOOD AVE. AC
WINSTON-SALEM 27103 919 768-4110

KING, ROBERT THOMAS, III 032
BOX 2879, DUMC A S
DURHAM 27710 919 493-0267

KING, WALTER LEE OPH 018
PO BOX 2186 A P AC
HICKORY 28603 704 322-5120

KINGERY, DAVID REDDING ORS 060
1350 S. KINGS DR. A AC
CHARLOTTE 28207 704 372-8750

KINLAW, JAMES BRADY, JR. FP 076
132-A W. MILLER STREET A AC
ASHEBORO 27203 919 625-1360

KINLAW, WM. K., JR. NS 00
370 WINN WAY A AC
DECATUR, GA 30030 404 292-461

KINNAIRD, PAUL MCKEE, JR. PD 06
101 NASH MEDICAL ARTS MALL * AC
ROCKY MOUNT 27804 919 443-882

KINNE, EDMUND RICHARD OBG 04
6007 PERCIVAL RD., #1257 AC
COLUMBIA, SC 29206 803 782-772

KINNEY, ROBERT BRUCE PTH 03
BOX 3712, DUMC A
DURHAM 27710 919 684-330

KINNEY, STEPHEN LEIGH 03
130 LIONHEAD COURT A
BALTIMORE, MD 21237 301 574-152

KIRK, CHARLES DAYTON AN 09
RALEIGH ANESTHESIA ASSOC. A AC
P. O. BOX 18139
RALEIGH 27619 919 872-480

KIRKLAND, JOHN ALVIN OBG 09
1700 S. TARBORO ST. A * AC
WILSON 27893 919 291-901

KIRKLEY, MARGARET ANNE FP 04
518 SIXTH AVENUE, WEST AC
HENDERSONVILLE 28739 704 697-780

KIRKLEY, SIDNEY EUGENE IM 04
518 SIXTH AVENUE, WEST A AC
HENDERSONVILLE 28739 704 697-780

KIRKMAN, PAUL MADISON CD /IM 04
740 BRYANT ST. A AC
STATESVILLE 28677 704 872-814

KIRKPATRICK, JOHN STEWART 03
704 W. CORNWALLIS RD.
DURHAM 27707 919 493-652

KIRKSEY, WILLIAM ALBERT GP 01
302 S. KING STREET L/RT
MORGANTON 28655 704 437-185

KIRSCH, MARK TR 06
3041 VALENCIA TERRACE P AC
CHARLOTTE 28211 704 371-418

KISER, JEFFERSON B., JR. N 04
1910 N. CHURCH ST. A AC
GREENSBORO 27405 919 273-251

KITCHEN, THOMAS WARD, JR. FP 06
410 NEW BRIDGE ST. APT. 10-A A P AC
JACKSONVILLE 28540 919 347-178

KITCHENS, THOMAS RUSSELL PS 04
1507 WESTOVER TERR., STE. A A * AC
GREENSBORO 27408 919 373-056

KITCHIN, ALVIN PAUL, JR. FP 09
1404 E. FRANKLIN STREET AC
MONROE 28110 704 289-872

KITCHIN, TINA CIESIEL PD 09
DEVELOP. EVALUATION CTR. AC
321 ASHE AVE.
RALEIGH 27609 919 782-034

KITTINGER, JOSEPH WILLIAM, III GE 06
1202 MEDICAL CENTER DR. A AC
WILMINGTON 28401 919 341-334

KITTNER, PHILIP JOEL OBG 01
80 VICTORIA ROAD A AC
ASHEVILLE 28801 704 255-890

KIZEN, PAUL ANDREW OBG 07
1142 N. ROAD STREET A AC
ELIZABETH CITY 27909 919 335-206

KLEIN, ALAN DR 03
631 LICHFIELD ROAD A AC
WINSTON-SALEM 27104 919 748-431

KLEIN, DEYSY MARTINEZ AN 06
1901 RANDOLPH RD. A AC
CHARLOTTE 28207 704 375-512

KLEIN, ROBERT EDWARD BLB 03
650 COLISEUM DRIVE A AC
WINSTON-SALEM 27106 919 725-434

KLEIN, STEVEN RUSSELL IM 03
2933 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27103 919 765-525

KLIMAS, JOHN THOMAS A/PD 06
2711 RANDOLPH RD. AC
CHARLOTTE 28207 704 372-790

KLOSTERMYER, BROOKS VAN SLYKE DR 07
113 CEDAR CREEK DR. A AC
ASHEBORO 27203 919 629-077

KNEEDLER, WILLIAM HARDING IM 01
C/O MR. & MRS. I.B. HUDSON A L
2105 BYRD ST.
RALEIGH 27608 704 782-323

IIGHT, EDWARD BERT, III PUD /IM 078
27TH STREET A AC
LUMBERTON 28358 919 738-7551

IISH, EDWARD J., JR. IM 060
PO BOX 189 A AC
MATTHEWS 28105 704 365-0760

IOEFEL, ARTHUR EUGENE, JR. FP 011
114 MONTREAT RD. A L/RT
PO BOX 875
BLACK MOUNTAIN 28711 704 669-8121

IOTT, LAWRENCE H., JR. GS /CDS 054
P. O. BOX 1316 A AC
KINSTON 28501 919 522-1626

IOTT, RUFUS HENRY, II OTO /A 074
100 WILLIAMSBURG DRIVE AC
GREENVILLE 27834 919 752-5227

IOX, ANGELINA VINLUAN EDRALIN PD 065
2304 DELANEY AVENUE A AC
WILMINGTON 28401 919 763-3349

IUPP, CHARLES LEONARD HEM /IM 074
ECU SCHOOL OF MEDICINE A AC
DEPT. OF MEDICINE
GREENVILLE 27834 919 551-2560

IUTSON, THOMAS MARVIN EM /FP 096
P. O. BOX 10867 AC
GOLDSBORO 27530 919 731-6060

OCAK, THEODORE JOSEPH FP 060
P. O. BOX 11438 A P AC
CHARLOTTE 28220 704 553-9474

OCONIS, CHRIST ALEXATOS OTO /HNS 060
1350 KINGS DRIVE A AC
CHARLOTTE 28207 704 372-8750

ODACK, ALBERT FP /GYN 011
34 SUNSET SUMMIT L
ASHEVILLE 28804 704 252-1131

ODROFF, MICHAEL BARRY PDR /NM 074
ECU DEPT. OF RADIOLOGY A AC
GREENVILLE 27834 919 551-4972

OEHLER, LISA ANN 032
1521 E. FRANKLIN ST. A S
B-211 FRANKLIN WOODS
CHAPEL HILL 27514 919 933-7515

OGUT, DAVID GENE /IM 049
1835 DAVIE AVE. A AC
STATESVILLE 28677 704 872-2768

OHLI, ASHA KIRAN CHP /PD 096
505 PARKWOOD LANE A AC
GOLDSBORO 27530 919 731-3317

OHUT, ROBERT IRWIN OTO /HNS 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4161

OHUT, WALTER DENNIS END /IM 041
1511 WESTOVER TERRACE A AC
GREENSBORO 27408 919 373-1054

OKIKO, GEORGE VICTOR PTH /CLP 096
WAYNE COUNTY HOSPITAL AC
CALLER BOX 8001
GOLDSBORO 27530 919 735-1530

OMAN, L. ANDREW ORS /HS 034
300 S. HAWTHORNE RD. A * AC
WINSTON-SALEM 27103 919 748-2878

OOKEN, KEITH ROBERT GS 034
2915 LYNDHURST AVENUE A AC
WINSTON-SALEM 27103 919 765-5221

OOMEN, JACOB, JR. PH 092
909 DOGWOOD LANE A L/RT
RALEIGH 27607 919 834-4355

OON, CRAWFORD BRYAN DR 032
2609 N. DUKE ST. A P AC
DURHAM 27704 919 471-8411

OONTZ, JACK ALEXANDER OM 074
E. I. DUPONT DENEMOURS CO. A AC
P. O. BOX 800
KINSTON 28501 919 522-6100

OONTZ, THOMAS JEFFREY GS 034
4250 ALLISTAIR ROAD A AC
WINSTON-SALEM 27104 919 765-5221

OONTZ, WAYNE CARSON PD 080
720 GROVE STREET AC
SALISBURY 28144 704 636-5576

OOPERSMITH, TINA BETH 032
BOX 2764, DUMC A S
DURHAM 27710

OPELMAN, ARTHUR NPM 074
ECU SCHOOL OF MEDICINE AC
GREENVILLE 27834 919 551-4787

†KOURI, MOSES LAWRENCE, JR. FP 060
6900 FARMINGDALE DR. A AC
DECEASED - 3-21-87
CHARLOTTE 28212 704 536-1362

KOURI, WILLIAM HERBERT FP 060
6900 FARMINGDALE DR. A AC
CHARLOTTE 28212 704 536-1362

KRABILL, LAWRENCE DAVID IM /RHU 098
1700 S. TARBORO ST. A AC
WILSON 27893 919 291-1300

KRAMER, NORMAN JOHN IM /END 060
3535 RANDOLPH ROAD, STE. 300 A AC
CHARLOTTE 28211 704 365-0760

KRAMER, STEPHEN IRWIN P 034
250 CHARLOIS BLVD. A AC
WINSTON-SALEM 27103 919 768-4730

KRAMER,HAL PAUL, LT. MC,USNR FP 000
419 BOROS ROAD A R
NEW BERN 28560

KRATZ, ROBERT KEVIN EM /IM 092
3000 NEW BERN AVE. AC
RALEIGH 27610 919 782-3969

KRAUS, ERIC MARSHALL OTO /HNS 041
321 W. WENDOVER AVENUE A AC
GREENSBORO 27408 919 379-9445

KRAYBILL, ERNEST NISSLEY PD /NPM 032
UNC, DEPT. OF PEDIATRICS AC
CHAPEL HILL 27514 919 966-5063

KREDEL, ERNST KARL WILHELM OM /PH 067
U.S. NAVAL HOSPITAL A AC
BOX 8, MCB
CAMP LEJEUNE 28542 919 451-2181

KREEGER, ROBERT A. EM 064
112 TAM O'SHANTER DR. AC
ROCKY MOUNT 27804 919 443-8172

KREGE, JOHN WILSON ORS 041
1505 WESTOVER TERR. A AC
GREENSBORO 27408 919 275-0927

KREMERS, SCOTT ALEX PUD /CD 060
1928 RANDOLPH ROAD, STE. 206 A P AC
CHARLOTTE 28207 704 375-9932

KRESHON, MARTIN JOHN OPH 060
1600 E. THIRD STREET A * AC
CHARLOTTE 28204 704 372-3300

KRINER, ARTHUR FREDERICK DR 041
P. O. BOX 13005 A AC
GREENSBORO 27405 919 379-4141

KRISHINGNER, GENE LAVERE GS 045
ROUTE #8, BOX 81-A AC
HENDERSONVILLE 28739 704 693-1729

KROEGER, RICHARD JAMES GE /IM 054
1802 OXFORD ROAD AC
KINSTON 28501 919 522-0285

KROHN, JOHN RAMON PS 065
2305 CANTERWOOD DR. A AC
WILMINGTON 28401 919 343-0119

KROLL, LARRY LEROY ORS 011
53 S. FRENCH BROAD ST. A AC
ASHEVILLE 28801 704 252-7180

KRONCKE, FREDERICK GEORGE, JR. OBG 064
200 NASH MEDICAL ARTS MALL A AC
ROCKY MOUNT 27801 919 443-5941

KROOVAND, ROY LAWRENCE U/PD 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4131

KRUEGER, ALAN LEE P 011
CALEDONIA ROAD A * AC
P. O. BOX 5534
ASHEVILLE 28813 704 253-3681

KRUM, RONALD EUGENE FP 045
P. O. BOX 5420 A P AC
FLETCHER 28732 704 687-1416

KRUSE, RICHARD STEVEN DR /NM 063
PO BOX 1795 A AC
SOUTHERN PINES 28387 919 692-9667

KRYSTAL, ANDREW DARRELL 032
811 VICKERS AVE. A S
DURHAM 27001 919 688-0577

KU, ANDREW DR 032
311 S. LASALLE ST. APT. 36-F A * R
DURHAM 27705 919 681-2711

KUBITSCHECK, KENNETH R. IM 011
445 BILTMORE CTR., STE. 407 A AC
ASHEVILLE 28801 704 258-0397

KUK, DENNIS STANLEY OBG /GYN 098
1704 S. TARBORO STREET A AC
WILSON 27893 919 291-7001

KULP, KENNETH ROBERT D 034
1900 S. HAWTHORNE RD. STE. 358 A AC
WINSTON-SALEM 27103 919 768-4382

KUMAR, KAMLESH PUD /IM 064
108 N. ENGLEWOOD DR. AC
ROCKY MOUNT 27801 919 443-1126

KUMAR, SATISH KUMAR PUD /IM 064
108 N. ENGLEWOOD DR. AC
ROCKY MOUNT 27801 919 443-1126

KUNKEL, COOPER DAVE, III OPH 025
802 MCCARTHY BLVD. A AC
NEW BERN 28560 919 633-4183

KUNO, RITSU IM /ID 032
CHALET I, GREENE ST. A S
CHAPEL HILL 27514 919 942-4992

KUNSTLING, CARL RICHARD EM /GS 054
720 JONES AVENUE A * AC
KINSTON 28501 919 522-7272

KUNSTLING, TED RICHARD PUD /IM 092
1212 CEDARHURST DR. A AC
RALEIGH 27609 919 872-4850

KURAD, JOSEPH WARD U 018
1202 N. CENTER STREET A AC
HICKORY 28601 704 322-4340

KURTEN, LOUIS JOHN IM /CD 026
2826 MILLBROOK RD. A RT
FAYETTEVILLE 28303 919 484-8058

KURTZ, ELAM STOLTZFUS FP 005
P. O. BOX 227 A AC
LANSING 28643 919 384-3326

KURTZ, KEVIN JOHN 074
2903-D CEDAR CREEK DR. A S
GREENVILLE 27834 919 551-1653

KURTZMAN, HOWARD MARC CHP /P 041
604 GREEN VALLEY RD.,STE. 412 A
GREENSBORO 27408 919 855-0113

KURZMANN, RICHARD WALTER OBG 092
2800 BLUE RIDGE BLVD. STE. 206 AC
RALEIGH 27607 919 781-7450

KUSHNICK, THEODORE PD 074
ECU SCHOOL OF MEDICINE A AC
GREENVILLE 27834 919 551-2529

KUSUMI, YOSHITARO P/PYM 092
1004 DRESSER COURT, STE. 106 A AC
RALEIGH 27609 919 876-5530

KUTNER, WILLIAM A., JR. ORS 049
417 E. STATESVILLE AVE. A P AC
MOORESVILLE 28115 704 664-1060

KUTTEH, HANNA CONSTANTINE GYN 049
564 BROOKDALE DRIVE AC
STATESVILLE 28677 704 872-6321

KUZMA, GARY ROBERT HS /ORS 041
409 E. PARKWAY DR. A P AC
GREENSBORO 27401 919 378-0811

KWIATKOWSKI, PETER FRANK IM 041
408-B PARKWAY DR. A AC
GREENSBORO 27401 919 275-9804

KYLSTRA, JOHANNES ARNOLD PUD /A 032
BOX 2958, DUMC AC
DURHAM 27710 919 684-3069

LA VIGNE, MARK KINO 074
DOCTOR'S PARK APTS J-2 A * S
GREENVILLE 27834 919 758-1822

LACKEY, ROBERT STEVENSON R/FP 060
2118 PINEWOOD CIRCLE A * AC
CHARLOTTE 28211 704 365-0343

LACROIX, CAROL ANN FP 084
320 YADKIN STREET A AC
ALBEMARLE 28001 704 982-9144

LACY, GEORGE RUFUS, JR. PTH /CLP 011
14 FOREST ROAD A L/RT
ASHEVILLE 28803

LADD, ROBERT JULIUS GS /EM 060
3323 WINDBLUFF DR. A AC
MATTHEWS 28105 704 542-8271

LADWIG, HAROLD ALLEN N 098
1600 CANAL DRIVE A AC
WILSON 27893 919 237-5877

LADWIG, STEPHEN HAROLD DR /NM 064
NASH GENERAL HOSPITAL P * AC
ROCKY MOUNT 27801 919 443-8083

LAFFERTY, JOHN MORRISON OBG 012
PO BOX 597 AC
RUTHERFORD COLLEGE 28671 704 874-2251

LAHSER, CHARLES IRVING PD 036
902-C COX ROAD A RT
GASTONIA 28052 704 867-5356

LAI, CHI-KWONG CD /IM 049
P. O. BOX 1460 AC
STATESVILLE 28677 704 873-0281

LAIRD, WILLIAM KENNETH PS 060
1900 RANDOLPH RD. STE. 300 A P AC
CHARLOTTE 28207 704 332-4161

LAL, MADAN OPH 051
925 SELMA RD. AC
PO BOX 239
SMITHFIELD 27577 919 934-3108

LALONDE, JOHN CHARLES FP 041
104 E. NORTHWOOD ST. * AC
GREENSBORO 27401 919 275-6445

LAM, DOUGLAS EDWARD FP 063
105 PERRY DRIVE * AC
SOUTHERN PINES 28387 919 692-4802

LAMANNA, ROGER WEED NEP /IM 098
1700 TARBORO STREET AC
WILSON 27893 919 291-1300

LAMAY, EDWARD NORMAN 034
448 HAWTHORNE RD. A S
WINSTON-SALEM 27103 919 722-5371

LAMBERT, JAMES ROYALL FP 096
238 SMITH CHAPEL RD. A AC
MOUNT OLIVE 28365 919 658-4954

LAMBETH, WILLIAM ARNOLD, III PS /GS 092
1112 DRESSER COURT A AC
RALEIGH 27609 919 872-2616

LAMBETH, WILLIAM RICK OBG 032
2609 N. DUKE STREET, STE. 204 A AC
DURHAM 27704 919 471-8402

LAMM, LEROY BARDEN P 080
P. O. BOX 427 A AC
ROCKWELL 28138 704 279-7034

LAMPLEY, CHARLES GORDON, III OBG 060
150 PROVIDENCE ROAD A AC
CHARLOTTE 28207 704 377-0461

LAND, MICHAEL ROY OBG 060
150 PROVIDENCE ROAD A AC
CHARLOTTE 28207 704 377-0461

LANDIS, EDWARD EVERETT, JR. PUD /IM 060
1350 KINGS DRIVE A AC
CHARLOTTE 28207 704 372-8750

LANDON, HENRY CLAYTON,III FP /IM 097
501 TENTH STREET A AC
NORTH WILKESBORO 28659 919 838-5761

LANE, CHARLES JENKINS 074
2905-H CEDAR CREEK RD. S
GREENVILLE 27834 919 758-2884

LANE, JERALD PAUL P 060
1900 RANDOLPH RD.,·STE. 918 A AC
CHARLOTTE 28207 704 333-7722

LANE, JOHN WESTON OBG 032
2808 GRETMAR DR. AC
DURHAM 27705 919 942-8571

LANE, ROBERT EARL FP 021
118 W. MARKET STREET A AC
P. O. BOX 487
HERTFORD 27944 919 426-5711

LANE, ROGER DAVID 034
2015 ELIZABETH AVE. A S
WINSTON-SALEM 27103 919 724-6405

LANE, TIMOTHY WALTER ID /IM 041
1200 N. ELM ST. AC
GREENSBORO 27401 919 379-4062

LANEY, ROBERT GAFFNEY,III GS 023
809 N. LAFAYETTE ST. A AC
SHELBY 28150 704 487-8591

LANG, ANDREW MARTIN FP 012
2203 S. STERLING STREET L/RT
MORGANTON 28655 704 437-4211

LANG, DELANO ROOSEVELT, JR. FP 008
ROANOKE CHOWAN HOSPITAL AC
AHOSKIE 27910 919 332-3560

LANG, JOHN ALBERT, III IM /DIA 092
615 ST. MARY'S STREET AC
RALEIGH 27605 919 828-7773

LANG, STEPHEN NORMAN ORS 032
BOX 2919, DUMC A * AC
DURHAM 27710 919 684-3949

LANGDELL, ROBERT DANA PTH /BLB 032
UNC SCHOOL OF MEDICINE,228-H A AC
CHAPEL HILL 27514 919 966-4333

LANGLEY, CHARLES PITMAN, III IM 023
808 SCHENCK STREET A AC
SHELBY 28150 919 482-1482

LANGLEY, JOHN RICHARD GS 026
1317 MEDICAL DR., STE. 2 A AC
FAYETTEVILLE 28304

LANGLEY, JOHN THOMAS ORS 054
KINSTON CLINIC, NORTH, STE. F A AC
KINSTON 28501 919 522-2020

LANGSTON, BERNARD LEROY, III GP 010
P. O. BOX 1934 AC
SHALLOTTE 28459 919 754-8731

LANIER, VERNE CLIFTON, JR. PS /GS 032
300 CRUTCHFIELD ST. A P AC
DURHAM 27704 919 471-3406

LANINGHAM, JAMES E. T. PTH /BLB 063
P. O. BOX 3000 A P * AC
MOORE MEMORIAL HOSPITAL
PINEHURST 28374 919 295-7978

LANNIN, DONALD ROWE GS 074
ECU, DEPT. OF SURGERY A AC
GREENVILLE 27858 919 551-9931

LANNING, CHARLES FREDRIC AN 092
14208 ALLISON DR. A AC
RALEIGH 27614 919 832-7988

LAPP, CHARLES WARREN IM /PD 092
3400 EXECUTIVE DRIVE A * AC
RALEIGH 27609 919 878-0900

LAPRADE, BENNETT WATTERSON OBG 054
1901 HAMPTON RD. AC
KINSTON 28501 919 527-7605

LARGE, HIRAM LEE, JR. PTH 060
7443 WINDYRUSH ROAD A L/RT
MATTHEWS 28105 704 542-9830

LARKIN, ERNEST WADDILL, III PTH 074
ECU SCH.OF MED.BRODY 1F79 A AC
GREENVILLE 27834 919 551-4495

LARKIN, ERNEST WADDILL, JR. OPH 007
211 N. MARKET STREET A P AC
WASHINGTON 27889 919 946-2171

LARKIN, GLENN MICHAEL FOP 060
4000-E PROVIDENCE RD. P AC
CHARLOTTE 28211 704 364-4718

LAROCHE, LAURENT P. OM /GPM 041
3303 HENDERSON ROAD A AC
GREENSBORO 27410 919 852-3770

LARSEN, ERIC GS /CDS 063
P. O. BOX 2000 A AC
PINEHURST 28374 919 295-1762

LARSEN, LARS CHRISTIAN FP 026
1601 OWEN DRIVE A AC
FAYETTEVILLE 28304 919 323-1152

LARSON, JOHN DAVID, JR. EM /OBG 092
8100 BENTWOOD PLACE A * AC
RALEIGH 27609 919 755-8500

LARSON, KIP LEROY FP 086
805 MERITA ST. A AC
MOUNT AIRY 27030 919 789-0454

LARSON, RICHARD MARTIN GS /CDS 074
10 DOCTORS PARK A AC
STANTONSBURG ROAD
GREENVILLE 27834 919 758-1747

LASHLEY, CURTIS RAY OM 041
JEFFERSON-PILOT LIFE INS.CO. A P AC
PO BOX 21008
GREENSBORO 27420 919 378-2193

LASSITER, KENNETH ROBERT LEE NS 060
1900 RANDOLPH RD., SUITE 502 A AC
CHARLOTTE 28207 704 372-8860

LASSITER, RICHARD EDWARD OBG 032
CONNER DR. PROF. BLDG. AC
CHAPEL HILL 27514 919 942-8571

LASSITER, TALLY EDWARD FP 007
619 E. 12TH STREET AC
WASHINGTON 27889 919 946-1193

LASSITER, TALLY EDWARD, JR. ORS /EM 032
210 DACIAN AVE. A R
DURHAM 27701 919 688-4609

LASSITER, WILL HARDEE, JR. GP 051
ROUTE #3, BOX 90 A L/RT
FOUR OAKS 27524 919 934-8783

LASSITER, WILLIAM EDMUND NEP /IM 032
UNC SCHOOL OF MEDICINE AC
CHAPEL HILL 27514 919 966-4275

LASTER, ANDREW JAY RHU /IM 060
125 BALDWIN AVE. AC
CHARLOTTE 28204 704 338-6300

LASTER, DAN WAYNE R 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4435

LATHAM-SADLER, BRENDA FP 07
119 N. FLORENCE ST. A AC
MAXTON 28364 919 844-525

LATIMER, HARRISON A. 03
APT. F-8, CAMELOT VILLAGE A
CHAPEL HILL 27514 919 968-192

LATOURETTE, KENNETH ABRAM PTH 04
P. O. BOX 177 A L/R
FLAT ROCK 28731 704 692-164

LATZ, TRACY J. T. 03
452 CORONA ST. A * S
WINSTON-SALEM 27103 919 723-530

LAUER, THOMAS EUGENE P 04
624 QUAKER LN., STE. A-111 AC
HIGH POINT 27262 919 889-412

LAUPUS, WILLIAM EDWARD PD /PNP 07
ECU SCH. OF MED. DEAN'S OFF. A AC
GREENVILLE 27834 919 551-220

LAURENS, JOHN CRS 011
445 BILTMORE CENTER, STE. 303 A AC
ASHEVILLE 28801 704 258-818

LAUZAU, FRANK JUSTIN IM 07
518 S. VAN BUREN RD. #7 AC
EDEN 27288 919 623-430

LAVENDER, DICK REDMOND ORS 041
201 E. WENDOVER AVENUE A AC
GREENSBORO 27401 919 275-631

LAWING, DANIEL PHILMON GP 055
212 E. WATER STREET AC
LINCOLNTON 28092 704 735-588

LAWRENCE, BENJAMIN JONES, JR. GS /PS 086
813 ROCKFORD ST. A AC
PO BOX 72
MOUNT AIRY 27030 919 786-7871

LAWRENCE, DALE N. IM /ID 000
BLDG. #1, MAIL STOP D 0 2 A AC
BLDG 1, ROOM 1407
ATLANTA, GA 30333 404 329-3696

LAWRENCE, HAL CLIFFORD, III OBG 011
93 VICTORIA ROAD A AC
ASHEVILLE 28801 704 253-4821

LAWRENCE, JOHN CHARLES GS 078
P. O. BOX 1068 AC
LUMBERTON 28358 919 738-8571

LAWRENCE, JOHN ELMORE, JR. CD /IM 011
554 CHUNNS COVE ROAD AC
ASHEVILLE 28805 704 254-8054

LAWRENCE, PATRICIA ANN OBG 060
1012 S. KINGS DR. STE. 624 A P AC
CHARLOTTE 28283 704 372-6201

LAWRENCE, ROBERT L. OTO /HNS 041
321 W.WENDOVER AVENUE A AC
GREENSBORO 27408 919 379-9445

LAWRENCE, ROBERT S. FP 081
313 PINE STREET AC
RUTHERFORDTON 28139

LAWRENCE, THOMAS EARL 032
K-8 TAR HEEL MANOR APTS A S
CARRBORO 27510 919 967-3398

LAWSON, JAMES DOUGLAS CDS /GS 041
1317 N. ELM ST.
GREENSBORO 27401

LAYTON, DENNIS SHELDON IM 060
7110 LAWYERS ROAD A AC
CHARLOTTE 28212 704 568-6500

LE CROY, CHARLES MICHAEL, JR. 032
134 LANDSBURY DR. A S
DURHAM 27707 919 493-9264

LEACH, WILLIAM B. PTH 065
306 WIDGEON DR. A RT
HAMPSTEAD 28443 919 270-4772

LEAK, FRANK WALTER FP 082
CLINTON MEDICAL CLINIC AC
CLINTON 28328 919 592-6011

LEAKE, ARTHUR ELDRIDGE, JR. AN 011
54 WESTALL AVENUE A * AC
ASHEVILLE 28804 704 255-3743

LEBAUER, EDMUND JOSEPH CD 041
721 GREEN VALLEY RD. A AC
GREENSBORO 27408 919 378-0774

LEBAUER, EUGENE SHANER IM /A 041
721 GREEN VALLEY RD. AC
GREENSBORO 27408

LEBAUER, MAURICE LEON GS 041
2023 ST. ANDREWS RD. A L/RT
GREENSBORO 27408 919 273-3258

LEBAUER, SAMUEL MORGENSTERN GE /IM 041
721 GREEN VALLEY RD. AC
GREENSBORO 27408 919 378-0774

LEBAUER, SIDNEY FERRING IM 041
721 GREEN VALLEY RD. A L
GREENSBORO 27408 919 378-0774

LEBLANG, STEVEN SETH FP 033
PO BOX 688 AC
PINETOPS 27864 919 827-5135

LEDBETTER, JOHN WINSLOW N 011
7 MCDOWELL STREET A P AC
ASHEVILLE 28801 704 255-7776

LEE, ALLEN HENRY GP 051
P. O. BOX 8 A P AC
SELMA 27576 919 965-3251

LEE, BENJAMIN HOWARD 034
2050 CRAIG ST. APT. #8 A S
WINSTON-SALEM 27103 919 454-3742

LEE, CHOO HYUNG IM /HEM 012
BROUGHTON HOSPITAL A AC
MORGANTON 28655 704 433-2501

LEE, DAE HEE FP 001
2142 N. CHURCH STREET AC
BURLINGTON 27215 919 227-7456

LEE, DAVID WAYNE 033
101 CLINIC DR. AC
TARBORO 27886 919 823-2105

LEE, EDWARD I. 032
702 N. COLUMBIA ST. A S
CHAPEL HILL 27514 919 942-8828

LEE, FRANCIS BROWN GS 090
501 S. CHURCH ST. A L/RT
PO BOX 457
MONROE 28110 704 283-4324

LEE, HENRY NEILL, JR. IM 078
395 WEST 27TH STREET A AC
LUMBERTON 28358 919 739-7551

LEE, IL SUNG IM 011
P. O. BOX 370 AC
ENKA 28728 704 667-5298

LEE, J. GARY OTO /HNS 041
321 W. WENDOVER AVENUE A * AC
GREENSBORO 27408 919 379-9445

LEE, JAMES MOBLEY TS 041
1317 N. ELM ST., STE. 1 A AC
GREENSBORO 27401 919 373-8245

LEE, JOSEPH DAVID R 055
P. O. BOX 954 AC
LINCOLNTON 28092 704 735-6654

LEE, JOSEPH, III FP 023
711 W. MOUNTAIN STREET AC
KINGS MOUNTAIN 28086 704 739-5456

LEE, K. STUART NS 034
325 JANET ST. R
WINSTON-SALEM 27104 919 748-2011

LEE, KYUNG KUN GS 012
P. O. BOX 2203 AC
MORGANTON 28655 704 433-2463

LEE, MARTHA HOPE 074
APT R-7, DOCTORS PARK A S
GREENVILLE 27834 919 578-3190

LEE, MITCHELL D. 074
611 E. 11TH ST., APT. E A S
GREENVILLE 27858 919 551-0532

LEE, SAE SOON GS /PDS 012
350 E. PARKER RD. A AC
PO BOX 1054
MORGANTON 28655 704 437-7395

LEE, SOONG HYUN P 064
106 NASH MEDICAL ARTS MALL AC
ROCKY MOUNT 27804 919 443-8002

LEE, TERRENCE JOHN ID /IM 011
445 BILTMORE CENTER, STE. 404 A AC
ASHEVILLE 28801 704 258-9635

LEE, THOMAS CHEN-YAO GS 043
703 TILGHMAN DRIVE AC
P. O. BOX 1501
DUNN 28334 919 892-1631

LEE, WILLIAM DAVID FP 092
3100 BLUE RIDGE RD., STE. 302 * AC
RALEIGH 27612 919 782-0146

LEE, YEN CHICH AN 060
PO BOX 33549 A AC
CHARLOTTE 28233 704 371-4049

LEE, YING HUEY GS 055
P. O. BOX 636 A P AC
LINCOLNTON 28092 704 735-2554

LEEPER, WILLIAM EDWARD, JR. IM 036
2525 PINEWOOD RD. A RT
GASTONIA 28054

LEET, DOUGLAS CHARLES U 092
3320 WAKE FOREST RD., STE. 100 AC
RALEIGH 27609 919 790-0036

LEFKOWITZ, DAVID, III PDA /PD 060
2711 RANDOLPH RD. STE. 400 AC
CHARLOTTE 28207 704 372-7900

LEFLER, CHARLES IM 088
WATER OAKES SUITES A AC
BREVARD 28782 704 884-4134

LEFLER, RUFUS STAMEY, III IM /CD 084
214 E. NORTH STREET A AC
ALBEMARLE 28001 704 982-1136

LEFLER, WADE HAMPTON, JR. OPH 018
P. O. BOX 2588 A * AC
HICKORY 28601 704 322-2050

LEGRAND, GORDON BUCK PTH 092
3000 NEW BERN AVENUE A AC
RALEIGH 27610 919 755-8260

LEHAN, LEIGH STEELE PD 092
2800 BLUE RIDGE RD., STE. 501 AC
RALEIGH 27607 919 781-7490

LEIBY, GEORGE MARTIN GPM 084
5201 ROMA AVE., NE A L/RT
ALBUQUERQUE, NM 87108 505 898-1384

LEIDY, LUANN P/CHP 032
4322 BEECHNUT LANE A R
DURHAM 27707 919 489-1491

LEIGHT, GEORGE STAPLES, JR. GS 032
2 SURREY LANE A AC
DURHAM 27707 919 684-6849

LEINBACH, LAURENCE B. DR 034
BOWMAN GRAY SCH. OF MED. A AC
WINSTON-SALEM 27103 919 748-3416

LELIEVER, WM. CHARLES OTO 053
1911 K. M. WICKER DR. A AC
SANFORD 27330 919 774-6829

LEMASTER, PIERRE CLIFFORD PD 026
1291 OLIVER STREET AC
FAYETTEVILLE 28304 919 483-2646

LEMLY-MUNDY, REGINA GAIL IM 034
752 PINE LAKE DR. A R
VIRGINIA BEACH, VA 23462 804 474-9113

LENAHAN, DEBORAH SMITHERMAN OPH 029
2 HOSPITAL DR. A P AC
LEXINGTON 27292 704 243-2436

LENDLE, DONALD LAWRENCE FP 034
147 COLUMBINE DR. AC
WINSTON-SALEM 27106 919 722-9535

LENNON, BARBARA M. 074
44 COLINDALE COURT A S
GREENVILLE 27858 919 756-2646

LENNON, DAVID STANCIL AN 060
2221 HOGAN CT. A P AC
MATTHEWS 28105 704 371-4049

LENNON, HERSHEL C. PTH 041
911 SUNSET DR. L/RT
GREENSBORO 27408 919 272-5038

LENNON, YATES ALTON 074
44 COLINDALE COURT A S
GREENVILLE 27834 919 648-4158

LEONARD, BAXTER COLUMBUS J. FP 026
2330 ROLLINGHILL RD. R
FAYETTEVILLE 28304 919 396-6481

LEONARD, DONALD DEAN PTH 041
1200 N. ELM STREET A AC
GREENSBORO 27401 919 379-4074

LEONARD, JACOB CALVIN, JR. OTO /OPH 029
119 W. SECOND AVE. A L/RT
LEXINGTON 27292 704 246-5295

LEONARD, JOHN RICHARD, III NS 074
125 MOYE BOULEVARD A * AC
GREENVILLE 27834 919 752-5156

LEONARD, MARILYN JEAN 074
#18 GLENWOOD APTS. A S
GREENVILLE 27858 919 758-0713

LEONARD, RALPH BEAUMONT EM 034
300 S. HAWTHORNE ROAD A AC
WINSTON-SALEM 27103 919 748-4626

LEONARD, WALTER EVAN FP 018
130 27TH STREET, S.W. AC
HICKORY 28601 704 322-1153

LEONE, CHERYL LEVINE PTH 036
1740 MONTCLAIR AVENUE AC
GASTONIA 28054 704 866-2851

LEONE, MICHAEL RALPH GS 041
1317 N. ELM ST., STE. 5 A * AC
PO BOX 10037
GREENSBORO 27404 919 274-8444

LEONE, PHILIP GEORGE PTH 036
1740 MONTCLAIR AVENUE A AC
GASTONIA 28054 704 866-2851

LEONHARDT, GARY GENE 074
304 S. JARVIS ST. A S
GREENVILLE 27834 919 758-0978

LEPORE, RALPH GP 041
4801 FOREST OAKS DR. A P AC
GREENSBORO 27406 919 674-7117

LERNER, MARK HARRIS 032
14 MELSTONE TURN A S
DURHAM 27707 919 489-2970

LERNER, PAUL U 011
1 DOCTOR'S PARK AC
ASHEVILLE 28801 704 253-5314

LESESNE, HENRY ROBY GE /IM 032
N. C. MEMORIAL HOSPITAL AC
CHAPEL HILL 27514 919 966-2511

LESHER, DONALD TICE DR 081
909 N. WASHINGTON STREET A AC
RUTHERFORDTON 28139 704 287-7371

LESHIN, BARRY D 034
300 S. HAWTHORNE RD. A AC
DEPT. OF DERMATOLOGY
WINSTON-SALEM 27103 919 748-2768

LESLIE, JOHN BRUCE AN 032
BOX 3094, DUMC A AC
DURHAM 27710 919 684-6931

LESSER, PHILIP STEVEN CHN /N 060
2608 E. SEVENTH ST. AC
CHARLOTTE 28204 704 377-9323

LESSEY, BRUCE ARTHUR OBG 032
1303 LAKEWOOD AVE. A R
DURHAM 27707 919 489-8831

LESTER, ROBERT HILTON OBG 036
902 COX ROAD, SUITE F A * AC
GASTONIA 28054 704 867-6386

LETTIERI, SALVATORE CARMINE 034
416 LOCKLAND AVE. A S
WINSTON-SALEM 27103 919 723-1839

LEUNG, CYRIL YIU-CHUN 032
6219 MALAGA COURT A S
LONG BEACH, CA 90803 213 498-3821

LEVI, GEORGE ALBERT OPH 026
1629 OWEN DRIVE A P L
FAYETTEVILLE 28304 919 484-6144

LEVIN, STEPHEN WARREN PD 034
116-A S. CHERRY STREET AC
KERNERSVILLE 27284 919 996-3883

LEVIN, STUART JEFFREY 032
0-9 OLD WELL APTS. A S
CARRBORO 27510 919 968-1623

LEVINE, GARY IRA FP 074
BOX 1846 A AC
GREENVILLE 27834 919 551-4611

LEVINE, MAX PHILLIP GS /CDS 086
180 N. PARKWOOD MED. CENTER A AC
ELKIN 28621 919 835-7600

LEVINE, MELVIN D. PD 032
UNC SCHOOL OF MEDICINE AC
BSRC 220-H
CHAPEL HILL 27514 919 966-1020

LEVINE, RONALD H. PH /PD 092
2404 WHITE OAK ROAD A * AC
RALEIGH 27609 919 782-0838

LEVINSON, SIDNEY LEONARD GE /IM 032
891 W. WILLOW DRIVE AC
CHAPEL HILL 27514 919 942-5123

LEVITIN, PETER MARK IM /RHU 041
1904 N. CHURCH STREET A AC
GREENSBORO 27405 919 274-3241

LEVITT, STEPHEN ROBERT P 032
500 EASTOWNE DRIVE AC
CHAPEL HILL 27514 919 942-8761

LEVY, STANLEY BENJAMIN D 032
891 WILLOW DRIVE A * AC
CHAPEL HILL 27514 919 942-3106

LEWIS, ANDREW JACKSON, JR. OBG 060
1900 RANDOLPH RD., STE. 602 AC
CHARLOTTE 28207 704 377-5675

LEWIS, ARCH RITCHIE IM /PUD 034
3100 ROUND HILL RD. A AC
GREENSBORO 27408 919 379-6961

LEWIS, CHARLES PELL, JR. OPH /OTO 079
1307 COACH RD. A * AC
PO BOX 329
REIDSVILLE 27320 919 342-0588

LEWIS, CLIFFORD T. IM 065
637 S. KERR AVENUE AC
WILMINGTON 28403

LEWIS, CLIFFORD WHITFIELD OBG /OBS 040
322 WOODROW AVENUE A L
HIGH POINT 27262 919 882-2830

LEWIS, DANIEL MICHAEL D 060
3535 RANDOLPH RD. STE. 101-W A AC
CHARLOTTE 28211 704 364-6110

LEWIS, DOCKERY DURHAM, JR. PD 049
P. O. BOX 1460 AC
STATESVILLE 28677 704 878-2011

LEWIS, LARRY STEWART GS 074
DEPT. OF SURGERY A AC
ECU SCHOOL OF MEDICINE
GREENVILLE 27834 919 551-4629

LEWIS, NEWMAN MAXVILLE IM 049
P. O. BOX 1460 * AC
STATESVILLE 28677 704 878-2011

LHOTSKY-BRODIE, DORA GE /IM 041
721 GREEN VALLEY RD. AC
GREENSBORO 27408 919 378-0774

LI, GEORGE IM 032
3515 GREENBRIER BLVD., APT. 14-B A R
ANN ARBOR, MI 48105

LIAO, FU CHE OTO 083
RT. #6, CYPRESS DR. A AC
LAURINBURG 28352 919 276-8205

LICHSTEIN, PETER RIBACK IM 074
ECU DEPT. OF MEDICINE A AC
GREENVILLE 27834 919 551-4633

LIDE, THOMAS NORWOOD PTH 034
10 SOVEREIGN DRIVE A L/RT
HILTON HEAD ISLAND, SC 29928 803 681-6815

LIEBSCHER, GREGORY JOHN 034
1605 NORTH WEST BLVD. A S
WINSTON-SALEM 27104 919 777-1279

LIES, STEPHEN CRAIG OBG 096
2400 WAYNE MEM.DR.,STE.K A AC
GOLDSBORO 27530 919 734-3344

LIEU, CHONG HYUN PD 049
146 E. MCLELLAND AVE. AC
MOORESVILLE 28115 704 663-7500

LIGON, HAROLD BELTON FP 011
86 VICTORIA RD.
MEDICAL CENTER BUILDING AC
ASHEVILLE 28801 704 252-1585

LILES, GEORGE WELCH GS 013
306 PROFESSIONAL BUILDING A AC
KANNAPOLIS 28081 704 932-4169

LILES, RICHARD VERNON, JR. FP 084
320 YADKIN STREET A * AC
ALBEMARLE 28001 704 982-9144

LIMBER, GERALD KECK PTH 076
1867 BACKCREEK COURT A AC
ASHEBORO 27203 919 625-5151

LIMPERT, GEORGE HENRY FP 034
1124 FENIMORE ST. A R
WINSTON-SALEM 27103 919 723-4806

LIN, JANET CHYNG-JIAU 032
311 S. LASALLE ST. APT. 40E A S
DURHAM 27705 919 286-7851

LINA, JOHN RAYMOND DR /R 063
203 RIDGEVIEW ROAD A AC
SOUTHERN PINES 28387 919 295-7040

LINCOLN, CLINTON ROBERT ORS 032
1828 HILLANDALE ROAD A AC
DURHAM 27705 919 286-1249

LINCOLN, DAVID OGDEN ORS 011
69 MCDOWELL ST. A AC
ASHEVILLE 28801 704 255-7526

LINDER, DONALD EARLE AN 041
5500 OLD BRANDT TRACE RD. AC
GREENSBORO 27410 919 288-6565

LINDERMAN, JAMES ALAN PD 060
167-L S. TRADE ST. AC
PO BOX 2564
MATTHEWS 28106 704 847-0572

LINDLEY, JOSEPH J. GS 001
KERNODLE CLINIC AC
BURLINGTON 27215 919 227-3621

LINDOW, LARRY GENE IM /GP 060
6301 MORRISON BLVD. A AC
CHARLOTTE 28211 704 365-3900

LINDQUIST, RICHARD KURT OBG 012
2203 S. STERLING ST., STE. 132 A AC
MORGANTON 28655 704 437-6122

LINDSAY, ROBERT BOYD IM 032
904 KINGS MILL RD. A L/RT
CHAPEL HILL 27514 919 942-6136

LINEBERGER, CATHERINE KUHN 032
63 LONGWOOD AVE. #3 A S
BROOKLINE, MA 02146 919 929-1356

LINEBERGER, THOMAS H. IM 063
1901-C N. SANDHILL BLVD. A AC
ABERDEEN 28315 919 692-4011

LINFORS, EUGENE WILLIAM IM 032
306 S. GREGSON ST. A AC
DURHAM 27701 919 682-5561

LINK, ARTHUR STANLEY, JR. ID /IM 034
1401-B OLD MILL CIRCLE A P AC
WINSTON-SALEM 27103 919 765-8420

LINK, KERRY MICHAEL 034
300 S. HAWTHORNE RD.,BOX 265 A R
WINSTON-SALEM 27103 919 724-4498

LINK, MELVIN ROBERT OTO 060
3323 STANWYCK COURT A L/RT
CHARLOTTE 28211 704 364-2111

LINS, MARK DAVID 034
1641-F NORTHWEST BLVD. A S
WINSTON-SALEM 27104 919 725-8423

LINSTER, DOROTHY MAE OBG 092
3714 BENSON DR. AC
RALEIGH 27609 919 850-9377

LINTON, EUGENE BELL OBG 034
112 BENT ST., BOX 742 A AC
BERMUDA RUN 27006 919 765-9350

LIPHAM, HARRY GLENN PUD /IM 044
102 HOSPITAL DRIVE AC
CLYDE 28721 704 452-0331

LIPOVAN, MIRCEA BREITZ R 065
3707-C RESTON CT. AC
WILMINGTON 28401 919 395-8180

LIPSON, ERIC JAMES 034
1900 QUEEN ST., APT. A-5 A S
WINSTON-SALEM 27103 919 724-9034

LIPTON, BARBARA STEINER P 032
2004 N. LAKESHORE DRIVE A AC
CHAPEL HILL 27514 919 942-2453

LIPTON, MORRIS ABRAHAM P/IM 032
UNC, BSRC BLDG. 220-H A L
CHAPEL HILL 27514 919 966-1456

LIPTZIN, MYRON BENNETT P 032
UNC STUDENT HEALTH SERVICE A AC
CHAPEL HILL 27514 919 966-2281

LIST, NOEL DAVID GER /GPM 032
BOX 3003, DUMC AC
DURHAM 27710 919 684-2248

LITCHFIELD, JAY ROBERT 032
212 MCCAULEY ST. APT. 1-B A S
CHAPEL HILL 27514 919 968-1909

LITTLE, ALFRED BOYD CD /IM 041
1016 N. ELM ST. AC
GREENSBORO 27401 919 272-6153

LITTLE, DONALD FORREST OBG 060
1350 KINGS DRIVE AC
CHARLOTTE 28207 704 372-8750

LITTLE, DOUGLAS JONATHAN IM /CD 053
136-A CARBONTON ROAD AC
SANFORD 27330 919 776-0719

LITTLE, EDGAR WATSON PD 041
1307 W. WENDOVER AVE. AC
GREENSBORO 27408 919 275-8621

LITTLE, EDWIN PAUL FP 054
P. O. BOX 415 AC
PINK HILL 28572 919 568-4111

LITTLE, HARRY FP 034
158 HOSPITAL ST. A AC
PO BOX 425
MOCKSVILLE 27028 704 634-2108

LITTLE, HENRY REECE, JR. FP 025
800 HOSPITAL DRIVE A L/RT
NEW BERN 28560 919 637-6118

LITTLE, LONNIE MARCUS GP 049
206 ST. ANDREWS ROAD A L/RT
STATESVILLE 28677 704 873-7442

LITTLE, ROBERT WINFIELD PD 001
2505 S. MEBANE ST. AC
BURLINGTON 27215 919 227-9750

LITTLE, SUZANNE BROWN IM /CD 025
800 HOSPITAL DRIVE AC
NEW BERN 28560 919 637-6118

LITTLEJOHN, JAMES TALMADGE IM /CD 011
416 DOCTOR'S BUILDING A AC
ASHEVILLE 28801 704 253-0443

LITTLEJOHN, MARK HAYS R/NM 006
CANNON MEMORIAL HOSPITAL A AC
BANNER ELK 28604 704 898-5823

LITTLEJOHN, THOMAS WILLARD OBG /OBS 034
3185 MAPLEWOOD AVENUE AC
WINSTON-SALEM 27103 919 768-0684

LITTLEJOHN, THOMAS WILLARD,III FP 034
2805 LYNDHURST AVENUE AC
WINSTON-SALEM 27103 919 768-8890

LITTLETON, ROBERT ELTON OBG 092
3622 HAWORTH DR. A AC
RALEIGH 27609 919 782-1273

LITZENBERGER, W. A. DREW NPM /PD 011
304-M DOCTOR'S BLDG. AC
ASHEVILLE 28801 704 253-1998

LIVERMAN, HENRY JOSEPH FP 007
P. O. BOX 218, LAZY LANE AC
ENGELHARD 27824 919 925-3271

LIVERMAN, JOSEPH THOMAS FP 064
111 W. CHURCH STREET A AC
NASHVILLE 27856 919 459-4012

LJUNG, TOR MARTIN 074
PO BOX 788 A S
WINTERVILLE 28590 919 355-6674

LLEWELLYN, CHARLES E., JR. P 032
3550 HAMSTEAD CT. A P AC
DURHAM 27707 919 489-9808

LLOYD, HARRY DAVIDSON U 081
NORRIS-BIGGS CLINIC A AC
RUTHERFORDTON 28139 704 286-9036

LLOYD, KERMIT ALVIN 032
RT. #5, BOX 305 A S
CHAPEL HILL 27514 919 929-1911

LOCKERT, CHARLES RAY ORS 080
102 MOCKSVILLE AVENUE P AC
SALISBURY 28144 704 637-0500

LOCKHART, DAVID ARMISTEAD PD 013
40 ARDSLEY AVENUE, N.E. AC
CONCORD 28025 704 786-1144

LOCKLEAR, JIMMY IM /CD 092
1212 CEDARHURST DR. AC
PO BOX 18700
RALEIGH 27609 919 872-4850

LOCKWOOD, MARILYN ANN PD /ADL 041
UNC-G STUDENT HEALTH CENTER AC
GREENSBORO 27412 919 379-5340

LODA, FRANK ALOYSIUS, JR. PD /ID 032
UNC, DEPT. OF PEDIATRICS A * AC
CHAPEL HILL 27514 919 966-2504

LODGE, JEFFREY SANDS 034
1416 GLADE STE. #9 A S
WINSTON-SALEM 27103 919 721-9959

LOEHR, WALTER JOSEPH GS 032
2609 N. DUKE ST., STE. 402 A AC
DURHAM 27704 919 471-8439

LOFTUS, JAMES MORGAN, JR. ORS 013
PO BOX 1606 A AC
CONCORD 28026 704 788-3155

LOGAN, WILLIAM SUMNER D 060
1350 S. KINGS DRIVE AC
CHARLOTTE 28207 704 372-8750

LOGEL, ROBERT JOHN ORS 026
3308 MELROSE ROAD A P AC
FAYETTEVILLE 28305 919 484-3114

LOGUE, STEPHEN STUART IM 026
1766 METROMEDICAL DR. AC
FAYETTEVILLE 28304 919 483-8080

LOHAVICHAN, CHOOMSANG NEP /IM 026
PO BOX 42736 A AC
FAYETTEVILLE 28304 919 323-1315

LOHAVICHAN, VIRAT CD /IM 026
P. O. BOX 64277 AC
FAYETTEVILLE 28306 919 323-1315

LOHR, DERMOT PH 029
20 VANCE CIRCLE A L/RT
LEXINGTON 27292 704 246-2626

OHR, LLOYD DERMOT OBG 029
7 MEDICAL PARK DRIVE A AC
LEXINGTON 27292 704 243-2431

OMAX, CHARLES WESTON OBG 041
522 N. ELAM AVE. AC
GREENSBORO 27403 919 273-0936

OMAX, DONALD HENRY FP 080
KETNER CENTER A AC
SALISBURY 28144 704 636-5626

OMBARD, R. ELIZABETH FP 080
P. O. BOX 457 A AC
ROCKWELL 28138 704 279-7227

ONDON, DEBORAH LOUISE 074
508 CIRCLE DR. A S
GREENVILLE 27834 919 752-0109

ONDON, HOWARD B. OPH 041
721 GREEN VALLEY RD. AC
GREENSBORO 27408 919 378-1632

ONDON, WILLIAM LORD PD /PHO 032
306 S. GREGSON STREET A AC
DURHAM 27701 919 688-6349

ONG, CLIFFORD JAMES OBG 063
P. O. BOX 2000 A AC
PINEHURST 28374 919 295-0286

ONG, EUGENE MONROE, II OBG /OBS 001
KERNODLE CLINIC AC
BURLINGTON 27215 919 226-2423

ONG, FRANK EDWARD OBG 013
1054 BURRAGE ROAD, N. E. A AC
CONCORD 28025 704 788-4151

ONG, JOHN CLAYTON D 034
1401-C OLD MILL CIRCLE A * AC
WINSTON-SALEM 27103 919 765-8121

ONG, PAUL DEMARS ORS 041
1505 WESTOVER TERR. A AC
GREENSBORO 27408 919 275-0927

ONG, RONALD MORGAN AN 096
709 LIONEL ST. A AC
GOLDSBORO 27530

ONG, THOMAS DRUMWRIGHT IM 073
P. O. BOX 797 A AC
ROXBORO 27573 919 599-3212

ONG, THOMAS THERON, III GE /IM 013
920 N. CHURCH STREET A P AC
CONCORD 28025 704 788-4186

ONG, WALTER NATHANIEL, JR. FP 002
505 THIRD AVENUE, SW AC
TAYLORSVILLE 28681 704 632-9736

ONG, WILLIAM EVERETT FP 018
P. O. BOX 1239 A AC
CONOVER 28613 704 464-3821

ONG, WILLIAM JOSEPH FP 060
402 E. SUGAR CREEK RD. AC
CHARLOTTE 28213 704 596-0822

ONGINO, FRANK HENRY GS /TS 074
1914 FOREST HILL DR. A RT
GREENVILLE 27834 919 758-1747

ONON, ROBERT WARREN, JR. AN 041
5501 WESTFIELD DR. AC
GREENSBORO 27410 919 373-8555

OOMIS, FRANK JOSEPH EM /GP 063
527-B EAGLE ROAD A AC
WHISPERING PINES 28327 919 295-7777

OOMIS, RALPH CHARLES NS 011
7 MCDOWELL STREET A AC
ASHEVILLE 28801 704 255-7776

OPER, PETER LOUIS PUD /OM 060
PO BOX 33189 A AC
DUKE POWER
CHARLOTTE 28242 704 373-4329

OPES, CLEMENCEAU DE JESUS GS /GP 009
P. O. BOX 1358 AC
ELIZABETHTOWN 28337 919 862-3112

ORD, RICHARD WILLIAM, JR. 034
2506 MILLER PARK CIRCLE A S
WINSTON-SALEM 27103 919 722-7649

ORE, RALPH ELI GS 014
306 PENNTON AVENUE, S.W. A L/RT
LENOIR 28645 704 754-7356

OTHIAN, GEORGE GENE FP 079
P. O. BOX 1857 AC
REIDSVILLE 27320 919 349-5040

OUGHLIN, HOWARD HOPKINS PD 026
1213 WALTER REED ROAD AC
FAYETTEVILLE 28304 919 484-6121

LOVE, DAVID EUGENE OBG 045
513 N. JUSTICE ST. AC
HENDERSONVILLE 28739 704 687-0122

†LOVE, J. GRAFTON NS 000
200 FIRST STREET, S.W. H
DECEASED-5-29-87
ROCHESTER, MN 55902 507 284-2691

LOVE, JAMES MCLEAN N/IM 041
2007 LAFAYETTE DRIVE A AC
GREENSBORO 27408 919 275-0779

LOVEJOY, STEVEN ARNET ORS 060
1012 S. KINGS DR. A AC
CHARLOTTE 28283 704 372-0743

LOVELACE, THOMAS CLAUDE GP /OBS 081
P. O. BOX 295 L/RT
HENRIETTA 28076 704 657-5118

LOVELL, WILLIAM FIGGATT A 060
2711 RANDOLPH RD. STE. 400 A AC
P. O. BOX 221189
CHARLOTTE 28207 704 372-7900

LOVETTE, KENNETH MAURICE OBG 065
1612 DOCTORS CIRCLE AC
WILMINGTON 28401 919 343-0161

LOVIN, VICKIE WEST OBG 018
PO BOX 2227 A AC
HICKORY 28603 704 322-4920

LOWE, BARBARA ANN IM 043
700 TILGHMAN DR. A * AC
DUNN 28334 919 892-1056

LOWE, JAMES EDWARD CDS /GS 032
BOX 3954, DUMC AC
DURHAM 27710 919 684-3235

LOWE, STEPHEN BECHTLER ORS /HS 034
SALEM ORTHOPAEDIC ASSOC. PA AC
PO BOX 25007
WINSTON-SALEM 27114 919 768-1270

LOWERY, WYLIE DONALD 032
7016 PROVIDENCE LANE, WEST A S
CHARLOTTE 27226 919 942-5643

LOWNES, MILTON MARKLEY, JR. GP 096
130 N. CENTER STREET AC
MOUNT OLIVE 28365 919 658-2505

LOWRY, OTIS MEGEL FP 064
SPRING HOPE CLINIC AC
PO BOX 1090
SPRING HOPE 27882 919 478-5344

LOWRY, ROY FRANK, JR. OPH 092
4024 BARRETT DR., STE. 104 A P AC
RALEIGH 27609 919 787-3241

LUCAS, ROBERT THEODORE, JR. PD 060
1350 KINGS DRIVE A AC
CHARLOTTE 28207 704 372-8750

LUCEY, DONALD TRUESDELL U 092
2800 BLUE RIDGE BLVD. STE. 403 A P AC
RALEIGH 27607 919 781-7113

LUDWIG, GARY KEITH PTH /FOP 023
104 BROOKDALE ROAD P AC
SHELBY 28150 704 487-3147

LUH, ALBERT HUNG-PEI 032
1481 ASHBOURNE DRIVE A S
LYNCHBURG, VA 24501

LUMB, PHILIP DENNETT AN 032
BOX 3094, DUMC AC
DURHAM 27710 919 681-3883

LUND, HERBERT ZACHAREUS PTH /D 041
1200 N. ELM ST. A L
GREENSBORO 27401 919 379-4074

LUND, JOHN JEFFERSON CD /IM 098
1700 S. TARBORO ST. A AC
WILSON 27893 919 291-1300

LUPTON, CARROLL CRESCENT CRS 041
3300 STARMOUNT DRIVE A L/RT
GREENSBORO 27403 919 299-9255

LUPTON, EMMETT STEVENSON D 041
P. O. BOX 177 A L/RT
ALAMANCE 27201 919 228-1288

LURIA, ALAN STUART OPH 076
220 FOUST ST. AC
ASHEBORO 27204 919 629-1451

LURIE, SCOTT NORD 032
1711 SHAWNEE ST. A S
DURHAM 27701 919 383-6272

LUSK, JOHN ALEXANDER, III ON /IM 041
1007 PROFESSIONAL VILLAGE A AC
GREENSBORO 27401 919 272-2141

LUTMAN, GEORGE BENTON PTH 026
P. O. BOX 2000 A AC
FAYETTEVILLE 28302 919 323-6149

LUTTERLOH, ISAAC HAYDEN, JR. IM 053
P. O. BOX 1269 AC
SANFORD 27330 919 775-3911

LUTTERLOH, ISAAC HAYDEN, SR. IM 053
P. O. BOX 1269 A L
SANFORD 27330 919 775-3911

LUTZ, CHARLES LARRY IM /GE 014
P. O. BOX 1020 A AC
LENOIR 28645 704 758-5544

LUTZ, JAMES DWIGHT AN 045
401 SIXTH AVENUE, WEST AC
HENDERSONVILLE 28739 704 693-9669

LUVIS, L.D.A. CLAUDIUS IM 036
1119 CHURCHILL DRIVE AC
GASTONIA 28052 704 867-1306

LYDAY, RUSSELL OSBORNE GS 041
1915 BOULEVARD ST. A L/RT
C/O MEADOWBROOK TERR.
GREENSBORO 27407 919 854-2115

LYDAY, WILLIAM DAVIE TS /GS 060
225 HAWTHORNE LN., STE. 301 A AC
CHARLOTTE 28204 704 377-5978

LYERLY, MARK ANDREW 032
9 GEORGETOWN CT. A S
DURHAM 27705 919 383-9784

LYLE, CARL BLACKBURN, JR. IM 032
145-A MACNIDER BLDG. 202-H AC
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514 919 966-5945

LYLES, EVELYN MCMASTER OBG 011
93 VICTORIA ROAD A * AC
ASHEVILLE 28801 704 253-4821

LYLES, MARY FENNELL IM /GER 034
300 S. HAWTHORNE ROAD AC
WINSTON-SALEM 27103 919 748-2051

LYMBERIS, MARVIN NICHOLAS OPH 060
2514 RED FOX TRAIL A L/RT
CHARLOTTE 28211 704 366-6227

LYNCH, JOHN FRANKLIN, JR. PD 040
905 ARBORDALE DR. A * L/RT
HIGH POINT 27260 919 886-4049

LYNCH, SUE ANN N 032
129 WINDSOR CIR. A R
CHAPEL HILL 27514 919 942-8097

LYNN, ARTHUR SIMONTON, JR. IM /CD 018
ROUTE #2, BOX 199 A AC
CONOVER 28613 704 322-1128

LYON, MARY ELIZABETH FP 003
616 DOCTOR'S STREET AC
SPARTA 28675 919 372-5606

LYSKO, JANE E. PTH 011
ST. JOSEPH'S HOSPITAL AC
DEPT. OF PATHOLOGY
ASHEVILLE 28801 704 255-3949

MABE, PAUL ALEXANDER, JR. FP 079
1123 S. MAIN STREET AC
REIDSVILLE 27320 919 342-4286

MABRY, EDWARD BLOXTON OBG 041
1305 W. WENDOVER AVENUE A AC
GREENSBORO 27408 919 274-6355

MABRY, FREDERICK HARRISON, JR. PD 083
418 KING STREET AC
LAURINBURG 28352 919 276-7570

MAC, HARJIT BALA PM 084
P. O. BOX 1230 A AC
ALBEMARLE 28002 704 983-3314

MAC, SURENDRAPAL SINGH ORS /HS 084
P. O. BOX 1230 AC
ALBEMARLE 28001 704 983-3314

MACALPINE, ORVILLE DUNCAN PD 011
98 HOLLY HILL DR. A L/RT
CANDLER 28715 704 667-5553

MACATEE, GEORGE, JR. PH /OBG 011
20 SUNSET SUMMIT A L/RT
ASHEVILLE 28804 704 252-4905

MACAULAY, HUGH HOLLEMAN,III EM /FP 060
3738 ABINGDON ROAD AC
CHARLOTTE 28211 704 371-4160

MACAULAY, ROBERT JOSEPH, JR. U 064
3136 SUNSET AVENUE A AC
ROCKY MOUNT 27804 919 443-3136

MACCORMACK, JOHN NEWTON PH 092
P. O. BOX 2091 AC
RALEIGH 27602 919 733-3421

MACDONALD, DONALD EWAN P 090
1310 MCCRAY STREET AC
MONROE 28110 704 289-5431

MACDONALD, HENRY JOHN, JR. OTO 025
PO BOX 2406 A AC
707 PROFESSIONAL DR.
NEW BERN 28560

MACDONALD, JOEL DOUGLAS 032
308 CAROL ST. A S
CARRBORO 27510 919 967-6776

MACDONALD, MARK EDWARD 074
107 DUPONT CIRCLE A S
GREENVILLE 27858 919 756-6502

MACDONALD, WILLIAM WEBSTER OBG 060
1023 EDGEHILL DRIVE A AC
CHARLOTTE 28207 704 373-1541

MACFARLAND, JOSEPH ALFRED GP 032
UNC STUDENT HEALTH SERVICE AC
CHAPEL HILL 27514 919 966-2281

MACHEMER, CHRISTINE ANNA P 032
BOX 3125, DUMC AC
DURHAM 27710 919 684-5772

MACHEMER, ROBERT OPH 032
BOX 3802, DUMC A AC
DURHAM 27710 919 684-5846

MACINTOSH, VICTOR HENRY FP 053
207 E. MAIN ST. * AC
SANFORD 27330 919 774-6282

MACK, RONALD BRIAN PD 034
2516 WOODBERRY DRIVE AC
WINSTON-SALEM 27106 919 727-8108

MACK, YVONNE 034
BOX 140, 300 S. HAWTHORNE A S
WINSTON-SALEM 27103 919 722-1325

MACKAY, JAMES CALVIN IM /PUD 065
1928 S. 16TH STREET AC
WILMINGTON 28401 919 762-5292

MACKEL, DAVID FREDERICK ORS 045
1027 FLEMING STREET A AC
HENDERSONVILLE 28739 704 692-5781

MACKENNA, JARLATH OBG /NPM 074
ECU, DEPT. OF OBG AC
GREENVILLE 27834 919 551-4693

MACLAUCHLIN, WILLIAM THOMPSON FP 018
P. O. DRAWER 1239 A AC
CONOVER 28613 704 464-3821

MACLEAN, DAVID BURTON END 034
786 ROSLYN ROAD A AC
WINSTON-SALEM 27104 919 748-2076

MACQUEEN, DONALD MILES A/PD 065
2321 DELANEY AVENUE A P AC
WILMINGTON 28403 919 763-1661

MACRAE, JOHN DONALD R 026
700 MEASE PLAZA, APT. 850 A L/RT
DUNEDIN, FL 33528 813 733-1161

MACRI, ANTHONY JOHN PTH 079
311 DOGWOOD DRIVE A AC
EDEN 27288 919 623-9711

MADAKASIRA, SUDHAKAR P 074
ECU, DEPT. OF PSYCHIATRY A AC
GREENVILLE 27858 919 551-2663

MADDOX, CHARLES DEATON IM 011
4-B DOCTOR'S PARK A AC
ASHEVILLE 28801 704 253-2865

MADDOX, THOMAS WILBUR GS /VS 092
3814 BROWNING PLACE AC
RALEIGH 27609 919 781-0710

MADRY, HERBERT RAYMOND, JR. DR 092
2105 WHITE OAK ROAD A P AC
RALEIGH 27608 919 833-9838

MADRY, JAMES THOMAS OBG /GYN 049
519 BROOKDALE DR. AC
STATESVILLE 28677 919 663-2564

MAGOLAN, JEROME JOSEPH, JR. OPH 092
3320 EXECUTIVE DR., STE. 210 A R
RALEIGH 27609 919 872-0572

MAHAFFEY, WILLIAM M. 074
E-8 DOCTORS PARK APTS. A S
GREENVILLE 27834 919 758-6102

MAHAN, DENNIS MICHAEL FP 039
1012 COLLEGE ST. A AC
OXFORD 27565 919 693-7108

MAHANEY, JOHN PHILIP, JR. FP 025
810 KENNEDY AVE. A * AC
NEW BERN 28560 919 633-1678

MAIER, RUDOLPH JOSEPH N 025
721 PROFESSIONAL DR. A AC
NEW BERN 28560 919 633-3744

MAINELLA, PAUL JOSEPH 032
20 LINDEN RD. A S
BARRINGTON, RI 02806

MAITLAND, ALEXANDER, III U 011
1 DOCTOR'S PARK A AC
ASHEVILLE 28801 704 253-5314

MAJORS, ROBERT POWELL, JR. OTO 092
3010 ANDERSON DR. A AC
PO BOX 18946
RALEIGH 27619 919 787-7171

MAJSTORAVICH, JOSEPH, JR. OPH 016
P. O. BOX 1317 AC
MOREHEAD CITY 28557 919 726-0411

MALEK, NABIL S. AN 032
BOX 3094, DUMC AC
DURHAM 27710 919 684-3026

MALEKPOUR, BAHMAN P 096
1708 WAYNE MEMORIAL DR. A AC
PO BOX 1342
GOLDSBORO 27530 919 734-2222

MALLETTE, JULIUS Q. OBG 074
ECU DEPT. OF OB-GYN A AC
GREENVILLE 27835 919 551-4983

MALLIS, GARY CRAIG 074
2806 CROCKETT DR. R
GREENVILLE 27834 919 758-8125

MALLONEE, MICHAEL STEVEN OTO /HNS 060
101 W.T. HARRIS BLVD.EAST A P AC
SUITE C-206
CHARLOTTE 28213 704 547-1609

MALLOY, H. REMBERT GS 034
2020 NEW WALKERTOWN ROAD A L/RT
WINSTON-SALEM 27101 919 723-3729

MALONE, JOHN HUGH, JR. IM 013
56 ARDSLEY AVENUE, N.E. A AC
CONCORD 28025 704 782-1101

MALONEY, SEAN ROBERT PM 011
50 DOCTORS DR. STE. W-20 A AC
ASHEVILLE 28801 704 254-9796

MALONEY, THOMAS RICHARD GER /IM 098
NC SPECIAL CARE CTR A AC
WARD BOULEVARD
WILSON 27893 919 237-1121

MALOY, THOMAS HOWARD OPH 065
2310 DELANEY AVENUE A AC
WILMINGTON 28401 919 763-3664

MALTBIE, ALLAN ARMSTRONG P/PYA 032
BOX 3837, DUMC A AC
DURHAM 27710 919 684-5217

MANCUSI-UNGARO, PETER CURT HEM /ON 065
2131 S. SEVENTEENTH STREET AC
WILMINGTON 28401 919 343-0161

MANDEL, DALE MASON GS /TRS 029
105 PINEYWOOD RD. BOX 1187 A AC
THOMASVILLE 27360 919 475-7148

MANDEL, STANLEY ROBERT GS /TS 032
UNC, DEPT. OF SURGERY 229H A AC
CHAPEL HILL 27514 919 966-3391

MANDELL, GORDON LEE AN 034
1321 ABINGDON WAY A AC
WINSTON-SALEM 27106 919 773-3259

MANESS, ARCHIBALD KELLY, JR. OBG 041
1305 W. WENDOVER AVENUE A AC
GREENSBORO 27408 919 273-3624

MANESS, PAUL FRANKLIN PD 001
328 W. DAVIS STREET A * L
BURLINGTON 27215 919 228-8341

MANESS, RUBIN FRANKLIN PD /A 096
2706 MEDICAL OFFICE PLACE AC
GOLDSBORO 27530 919 734-4736

MANGANO, CHARLES ANGELO, JR. CD /IM 092
3020 NEW BERN AVE. STE. 420 A AC
RALEIGH 27610 919 833-5111

MANGE, STEPHEN KENNEDY PD 060
PO BOX 1570 AC
DAVIDSON 28036 704 892-7905

MANGUM, ADDISON GOODLOE R 084
P. O. BOX 1258 AC
ALBEMARLE 28002 704 982-5319

MANGUM, CARLYLE THOMAS, JR. GP 056
P. O. BOX 429 AC
HIGHLANDS 28741 704 526-2125

MANGUM, GARY LIONELL ORS 02
202 E. GROVER ST. A AC
SHELBY 28150 704 482-731

MANGUM, JOHN ROWLAND FP 05
555 CARTHAGE ST. A AC
SANFORD 27330 919 774-651

MANGUM, RICHARD ARNOLD FP 03
PO BOX 706 A AC
CREEDMOOR 27522 919 528-070

MANLAPAS, HECTOR CHAN IM 04
P. O. DRAWER 158 A AC
ROANOKE RAPIDS 27870 919 537-013

MANLEY, JAMES JOSEPH FP /EM 02
P. O. BOX 2585 AC
705 PROFESSIONAL DR.
NEW BERN 28561 919 637-619

MANLY, ISAAC VAUGHN GS /TS 09
2800 BLUE RIDGE BOULEVARD A AC
RALEIGH 27607 919 781-741

MANLY, JAMES HOLLOWELL, JR. GS 09
2800 BLUE RIDGE BLVD. #303 AC
RALEIGH 27607 919 781-742

MANN, CARROLL LAMB, III NS 09
3009 NEW BERN AVE. A AC
PO BOX 14027
RALEIGH 27620 919 832-444

MANN, CHARLES HAYES OTO 03
1110 S. MAIN STREET A AC
DURHAM 27701 919 682-934

MANN, JAMES TIFT, III CD 09
WAKE HEART ASSOCIATES AC
PO BOX 14427
RALEIGH 27620 919 832-925

MANN, JOHN DOUGLAS N/IM 03
751 CLINICAL SCI. BLDG. 229-H A AC
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514 919 966-252

MANN, PHILIP ROGERS FP /IM 00
803 HERMITAGE ROAD A AC
BURLINGTON 27215 919 227-364

MANNING, ISAAC HALL, JR. IM 03
2609 N. DUKE ST. #604 A I
DURHAM 27704 919 286-763

MANNING, STUART HALL IM 03
2609 N. DUKE ST., STE. 604 A AC
CENTRAL MEDICAL PARK
DURHAM 27704 919 477-105

MARBURG, KENNETH CHARLES EM /FP 06
343 BRADLEY DR. AC
WILMINGTON 28403 919 791-007

MARCHESE, JOHN RICHARD OBG 09
40 DOCTORS DR. AC
BOONE 28607 704 264-906

MARCHETTI, LOUIS JOSEPH U 06
MIDSOUTH UROLOGY CTR., PA * AC
BOX 3, TWO MEMORIAL DR.
PINEHURST 28374 919 295-240

MARCOTTE, DAVID BACON P 02
1262 OLIVER ST. A * AC
FAYETTEVILLE 28304 919 484-515

MARCUARD, STEFANO P. GE /IM 07
ECU, DEPT. OF MEDICINE AC
GREENVILLE 27834 919 551-465

MARCUS, RICHARD WM. N 01
600 FIRST PLAZA A P AC
1985 TATE BLDG. SE
HICKORY 28601 704 328-550

MARGOLIS, JEFFREY ALAN IM 08
603 BEAMON ST. A AC
CLINTON 28328 919 592-611

MARION, JEREMIAH RICHARD, III OPH 03
631 COLISEUM DR. A * AC
WINSTON-SALEM 27106 919 723-104

MARKELLO, JAMES ROSS PD 07
ECU SCHOOL OF MEDICINE AC
GREENVILLE NC 27834 919 551-253

MARKHAM, ROBERT WADE D 04
624 QUAKER LANE, SUITE 302-B A * AC
HIGH POINT 27262 919 887-319

MARKS, EDGAR SEYMOUR IM 04
1100 OLIVE STREET A AC
GREENSBORO 27401 919 378-990

MARKS, JOHN JACOB GYN 09
5512 HAWTHORNE PARK AC
RALEIGH 27612 919 848-199

MARKWORTH, JAMES WARREN ORS 065
1222 MEDICAL CENTER DRIVE A AC
WILMINGTON 28401 919 763-2977

MARLOWE, DONNA M. 034
1208-A W. 4TH ST. A S
WINSTON-SALEM 27101 919 727-1866

MARLOWE, JAMES MANNING ORS 040
624 QUAKER LANE, SUITE D-200 AC
HIGH POINT 27262 919 841-6262

MARQUEZ, FRANCISCO JAVIER 032
105 WESKER CIRCLE A R
DURHAM 27703 919 596-0956

MARQUEZ, PATERNO RIEGO FP 064
107 NASH MEDICAL ARTS MALL AC
ROCKY MOUNT 27804 919 443-8810

MARROUM, MARIE-CLAIRE PTH 060
PO BOX 32861 A AC
CHARLOTTE MEM. HOSP.
CHARLOTTE 28232 704 338-2251

MARROW, HENRY GREGORY PTH 074
ECU SCH. OF MEDICINE A AC
CLINICAL PATH. BRODY 1508
GREENVILLE 27834 919 551-4495

MARROW, JANE GREGORY GYN 033
1003 MAIN STREET AC
TARBORO 27886 919 823-8491

MARSDEN, MARGARET E. FERRITER 032
200 WOODCROFT PARKWAY, #40-B A S
DURHAM 27713 919 489-8433

MARSH, FRANK BAKER IM 080
725 LAKE DRIVE A L/RT
SALISBURY 28144 704 633-2344

MARSHALL, BERNARD ANTHONY OBG 041
P. O. BOX 21922 AC
GREENSBORO 27406

MARSHALL, CHARLES FOSTER, JR. OPH 060
1012 S. KINGS DRIVE A AC
CHARLOTTE 28283 704 376-6511

MARSHALL, RICHARD BLAIR PTH 034
236 STANAFORD ROAD A AC
WINSTON-SALEM 27104 919 748-2626

MARSHBURN, ELISHA THOMAS, JR. IM 065
3208 OLEANDER DRIVE A P * AC
WILMINGTON 28403 919 762-9621

MARSICANO, THOMAS H. CDS 041
1317 N. ELM ST., STE. 1 A AC
GREENSBORO 27401 919 373-8245

MARSIGLI, ADOLFO HECTOR ORS /HS 064
110 NASH MEDICAL ARTS MALL A AC
ROCKY MOUNT 27801 919 443-8830

MARSIGLI, EDUARDO OSCAR ORS 064
110 NASH MEDICAL ARTS MALL A AC
ROCKY MOUNT 27801 919 443-8830

MARSTON, CHARLES THOMAS, JR. PD 081
117 TRYON ROAD AC
RUTHERFORDTON 28139 704 286-9049

MARTIN, CHARLES R. PD 067
120 MEMORIAL DRIVE A AC
JACKSONVILLE 28540 919 353-0581

MARTIN, DENNIS KEITH OBG 025
903 PINETREE DRIVE AC
NEW BERN 28560 919 633-4005

MARTIN, DENNIS LEE N 011
7 MCDOWELL ST. A P AC
ASHEVILLE 28801 704 255-7776

MARTIN, EDWARD STEPHENS PD 060
2711 RANDOLPH ROAD, SUITE 501 AC
CHARLOTTE 28207 704 374-1736

MARTIN, HAROLD LUTHER, JR. 032
1200 N. GREENSBORO ST. A S
CARRBORO 27510 919 929-8334

MARTIN, J. PAUL FP 011
491 BILTMORE AVE. A AC
ASHEVILLE 28801 704 258-0670

MARTIN, JAMES CICERO, JR. 032
VETERANS DR. APT. 7-A A R
ASHEVILLE 28805

MARTIN, JAMES FRANKLIN R/DR 034
2680-3 GROSVENOR PLACE A L
WINSTON-SALEM 27106 919 748-4505

MARTIN, MATTHEW BRUNSON GS 041
311 W. WENDOVER AVE. A AC
GREENSBORO 27408 919 275-8415

MARTIN, PHILIP L. OPH 092
3320 EXECUTIVE DR., STE. 210 A AC
RALEIGH 27609 919 872-0572

MARTIN, RICHARD W. GS 080
327 MOCKSVILLE AVE. A P AC
PO BOX 1665
SALISBURY 28144 704 637-2750

MARTIN, ROBERT GALE OPH 063
2170 MIDLAND ROAD A P AC
SOUTHERN PINES 28387 919 295-2100

MARTIN, SIDNEY ARNOLD OM /FP 092
3141 ESSEX CIRCLE A AC
RALEIGH 27608 919 782-0911

MARTIN, WELLS, III DR 040
HIGH POINT MEM.HOSP.,-RAD. A AC
HIGH POINT 27260 919 887-2551

MARTIN, WILLIS ELWOOD D/IM 064
112 NASH MEDICAL ARTS MALL A AC
ROCKY MOUNT 27804 919 443-8937

MARTINEZ, LUCAS J. NS 064
P. O. BOX 7514 A AC
ROCKY MOUNT 27801

MARTINEZ, SALUTARIO R 032
DUMC, DEPT. OF RADIOLOGY A AC
DURHAM 27710 919 684-2711

MARTONE, ARLENE RAE OBG 056
28 RIVERVIEW ST., STE. 110 AC
FRANKLIN 28734 704 335-0064

MARUCHECK, JOHN THOMAS IM 092
6217 DRESDEN LANE AC
RALEIGH 27612 919 878-0900

MARX, MARILYN GS 032
UTMB STATION 1, BOX 45 A R
GALVESTON, TX 77550 409 761-1875

MARX, RICHARD SAMUEL ID /IM 034
1401-B OLD MILL CIRCLE A AC
WINSTON-SALEM 27103 919 765-8420

MASIUS, WILLIAM GLENN 074
1801 GREENVILLE BLVD. APT. 19 A S
GREENVILLE 27858 919 752-5867

MASON, DAVID PENDLETON OBG 065
1809 GLEN MEADE ROAD A AC
WILMINGTON 28403 919 762-9807

MASON, ERIC W. AN 092
PO BOX 18139 A AC
RALEIGH 27619 919 755-3034

MASON, GARY MERLIN OBG 036
MEDICAL PARK A AC
902 COX RD., STE. F
GASTONIA 28054 704 867-6386

MASON, LOCKERT BEMISS GS 065
NEW HANOVER MEM. HOSP. A AC
WILMINGTON 28401 919 343-0161

MASON, WILLIAM TERRY ORS 080
400 MOCKSVILLE AVENUE A AC
SALISBURY 28144 704 633-6044

MASOUD, JAVED CD /IM 001
723 EDITH STREET AC
BURLINGTON 27215 919 229-6486

MASSAGEE, JAMES TERRILL AN 074
PHYSICIANS QUAD.,BLDG. 7 A P AC
GREENVILLE 27834 919 752-2140

MASSAQUOI, ALFRED DADEE LAMIN OBG 039
1030 COLLEGE ST. AC
P. O. BOX 1513
OXFORD 27565 919 693-4212

MASSENGILL, G.K. GS 092
3308 TIMBER LAKE ROAD A L/RT
RALEIGH 27604 919 872-6924

MASSENGILL, SUSAN FOSTER 074
2405-1 HORTON BLVD. A S
WILSON 27893 919 291-6550

MASSEY, CHARLES CASWELL, JR. CRS 060
2028 RANDOLPH ROAD A P AC
CHARLOTTE 28207 704 333-1259

MASSEY, THOMAS NEELY, JR. CD 060
217 TRAVIS AVENUE A AC
CHARLOTTE 28204 704 372-3350

MASTERS, KIM JAMES P/CHP 011
APPALACHIAN HALL A AC
PO BOX 5534
ASHEVILLE 28813 704 253-3681

MASTERS, MICHAEL JASON D 044
102 HOSPITAL DR. SUITE #6 * AC
CLYDE 28721 704 456-7343

MASTRANGELO, MICHAEL ROCCO GE 065
1515 DOCTOR'S CIRCLE A AC
WILMINGTON 28401 919 763-5182

MATHES, GORDON LAWRENCE, JR. U 064
3136 SUNSET AVE. A AC
ROCKY MOUNT 27801 919 443-3136

MATHEWS, HERSCHELL F. FP /EM 044
ROUTE #1, BOX 564 AC
SYLVA 28779 704 586-8352

MATHIESEN, KENNETH MARLIN FP /A 087
960 PLATEAU ST. L
BRYSON CITY 28713 704 488-6844

MATHIS, JAMES LARRY P 074
ECU, DEPT. OF PSYCHIATRY A AC
GREENVILLE 27858 919 551-2660

MATTERN, WILLIAM DOUGLAS NEP /IM 032
N. C. MEMORIAL HOSPITAL A AC
CHAPEL HILL 27514 919 966-2561

MATTHEWS, BRIAN LEWIS OTO 034
DEPT. OF OTOLARYNGOLOGY A AC
N. C. BAPTIST HOSPITAL
WINSTON-SALEM 27103 919 748-4161

MATTHEWS, COY RANDOLPH 034
120 EDEN TERRACE #1 A S
WINSTON-SALEM 27103 919 723-9781

MATTHEWS, DAVID CARY PS 060
2215 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 372-6846

MATTHEWS, GEORGE POWERS GP 031
P. O. BOX 609 A AC
ROSE HILL 28458 919 289-2330

MATTHEWS, JOHN DAIL OPH 041
3312 BATTLEGROUND AVE. A * AC
GREENSBORO 27410

MATTHEWS, MARJORIE E.F. FP 086
P. O. BOX 667 A AC
PILOT MOUNTAIN 27041 919 368-4198

MATTHEWS, ROLAND D. FP 001
1610 VAUGHN ROAD AC
BURLINGTON 27215 919 228-8333

MATTHEWS, WILBUR P. 065
1822 GLEN MEADE ROAD AC
WILMINGTON 28401

MATTHEWS, WILLIAM CAMP IM /OM 060
RT. #4, BOX 142-B A L/RT
CHESTER, SC 29706 803 385-6975

MATTOX, HUITT EVERETT OBG 098
1700 S. TARBORO ST. A AC
WILSON 27893 919 291-9010

MATTOX, HUITT EVERETT, III IM 034
1764 ROBINHOOD RD. R
WINSTON-SALEM 27104 919 725-3227

MATTOX, JAMES DWIGHT, JR. P 034
1546 OVERBROOK AVENUE A AC
WINSTON-SALEM 27104 919 768-6930

MATTOX, WILLIAM JOSEPH FP 065
1814 GLEN MEADE ROAD AC
WILMINGTON 28403 919 763-5471

MATTSON, MARK WARREN GS 083
PO BOX 1808 A AC
LAURINBURG 28352 919 276-3541

MATUS, SIMON R/NM 096
PO BOX 983 A
KIRBYVILLE, TX 75956

MAUERHAN, DAVID ROBERT ORS 060
1822 BRUNSWICK AVENUE A P AC
CHARLOTTE 28207 704 373-0544

MAULL, JOHN M. IM 014
PO BOX 1020 A AC
LENOIR 28645 704 758-5544

MAULTSBY, JAMES ALEXANDER ORS /PM 041
200 E. NORTHWOOD ST., STE. 410 A AC
GREENSBORO 27401 919 373-0312

MAUNEY, FRANK MAXTON, JR. CDS /TS 011
257 MCDOWELL STREET A P * AC
ASHEVILLE 28803 704 258-1121

MAURO, MATTHEW ANTHONY DR 032
101 CATAWBA COURT AC
CHAPEL HILL 27514 919 966-1461

MAURO, PATRICIA MARCHASE D 032
2609 N. DUKE ST. STE. 505 A P * AC
DURHAM 27704 919 477-2121

MAVROS, SHARON 032
411-I DOWNING ST. A S
DURHAM 27705 919 286-4617

MAXFIELD, STEVEN RONALD 032
872 LOUISE CIRCLE A S
DURHAM 27705 919 383-0050

MAXWELL, JAMES HEATH DR 041
2313 PRINCESS ANN ST. A AC
GREENSBORO 27408 919 299-6815

MAXWELL, JOHN GARY GS 065
2131 S. 17TH ST. A * AC
WILMINGTON 28402 919 343-0161

MAXWELL, MICHAEL C. 034
418 LOCKLAND AVENUE A S
WINSTON-SALEM 27103 919 723-8294

MAY, ALFRED T., III 074
25-G COURTNEY SQUARE A * S
GREENVILLE 27858 919 355-5287

MAY, CHARLES RAYSOR, III AN 026
2345 ROLLING HILL RD. A AC
FAYETTEVILLE 28304 919 323-5491

MAY, DAVID ALAN 032
100-D BERNARD ST. A S
CHAPEL HILL 27514 919 929-3078

MAY, HARVEY CRAIG GYN 060
2711 RANDOLPH ROAD, SUITE 305 A AC
CHARLOTTE 28207 704 372-8020

MAY, RONALD BRUCE PD /HEM 025
CRAVEN COUNTY HOSPITAL A AC
P. O. BOX 1390
NEW BERN 28560 919 633-4121

MAY, WILLIAM JOSEPH GYN /OBG 034
300 S. HAWTHORNE ROAD AC
WINSTON-SALEM 27103 919 748-4595

MAYBIN, RICHARD MADDEN GP /HYP 023
ROUTE #2 A AC
LAWNDALE 28090 704 538-8532

MAYER, CAREY CHARLES P 067
445 WESTERN BLVD., STE. A AC
JACKSONVILLE 28540 919 347-1920

MAYER, EUGENE STEPHEN GPM 032
UNC, 221H,WING C,BOX 3 A * AC
CHAPEL HILL 27514 919 966-2461

MAYER, MARK EDWARD IM 051
307 W. MAIN ST. A AC
BENSON 27504 919 894-2011

MAYER, NORMAN MICHAEL EM 041
P. O. BOX 29066 AC
GREENSBORO 27408 919 379-4040

MAYER, WALTER BREM IM 060
2420--407 ROSWELL AVENUE A L/RT
CHARLOTTE 28209 704 333-4322

MAYNARD, CHARLES DOUGLAS NM 034
BOWMAN GRAY, DEPT. OF RAD. A * AC
WINSTON-SALEM 27103 919 748-4575

MAYNARD, DAVID RUSSELL AN 041
213 MISTLETOE DR. A * AC
GREENSBORO 27403 919 855-0767

MAYNOR, CAROLYN CHANG 032
BEECHWOOD APTS. 24-A A S
4800 UNIVERSITY DR. EXT.
DURHAM 27707 919 286-1409

MAYNOR, JAYNE PATRICE AN 032
P. O. BOX 606 A S
PEMBROKE 28372 919 521-4208

MAYO, JOSEPH DIXON, JR. FP 091
MEDICAL SERVICES BLDG. AC
RUIN CREEK RD.
HENDERSON 27536 919 438-3155

MAYO, KATHY DIANE 074
T-5 DOCTORS PARK APTS. A * S
GREENVILLE 27834 919 752-2656

MAYRAND, ELIZABETH PTH 080
701 BARKER ST. A P * AC
SALISBURY 28144 919 998-8433

MAYS, OLIVER AIKEN PH 096
408 TAYLOR PL. A AC
GOLDSBORO 27530 919 731-1000

MAYSE, RAY SCOTT IM 023
707 W. KING STREET AC
KINGS MOUNTAIN 28086 704 739-9776

MCADAMS, CHARLES R.,JR. GS /GYN 060
225 HAWTHORNE LN. STE. 401 A AC
CHARLOTTE 28204 704 372-7741

MCADAMS, HOLMAN PAGE 032
10321 CRESTMOOR DR. R
SILVER SPRING, MD 20901 301 681-8511

MCALEXANDER, DONALD LEE IM 045
56 ARDSLEY AVENUE AC
CONCORD 28025 704 684-1030

MCALISTER, JAMES ALLEN, JR PTH /CLP 060
1901 RANDOLPH RD. A AC
CHARLOTTE 28207 704 375-1758

MCALISTER, JEAN COLVIN PD 041
925 NEW GARDEN RD.APT.121 A P L/RT
GREENSBORO 27410 919 855-8489

MCALISTER, LINDA THERESA OBG 026
PO BOX 53514 A AC
FAYETTEVILLE 28305 919 485-1191

MCALLISTER, DAVID WHITNEY OBG 060
2711 RANDOLPH RD., STE. 512 AC
CHARLOTTE 28213 704 333-4104

MCALLISTER, JAMES GRAY, III P 032
157 1/2 E. FRANKLIN ST. AC
PO BOX 431
CHAPEL HILL 27514 919 968-4651

MCALLISTER, RUSSELL G.,JR. CD /IM 032
3712 DOVER RD. A AC
DURHAM 27707 919 248-2598

MCARN, HUGH MUNROE, JR. FP /GP 083
422 KING STREET AC
LAURINBURG 28352 919 276-2100

MCAULIFFE, JOHN EDWARD AN 064
3709 WESTRIDGE CIRCLE DR. AC
ROCKY MOUNT 27801 919 443-2125

MCBRIDE, ALLEN JOSEPH FP /GER 032
BLUE CROSS/BLUE SHIELD OF NC A * AC
PO BOX 2291
DURHAM 27702 919 489-7431

MCBRIDE, ANN F. PD 092
3229 FLINTSHIRE RD. AC
RALEIGH 27604 919 787-5495

MCBRIDE, ROBERT BENNIS, JR. ORS 060
101 W. T. HARRIS BLVD. #220A A * AC
CHARLOTTE 28213 704 547-1552

MCBRYDE, ANGUS MURDOCH, JR. ORS 060
1012 KINGS DR., STE. 101 A P * AC
CHARLOTTE 28283 704 372-0743

MCCABE, JAMES MICHAEL P/N 034
2305 CRESTVIEW WAY A AC
WINSTON-SALEM 27103 919 722-2235

MCCAIN, JOHN LEWIS RHU /IM 098
WILSON CLINIC A P * AC
WILSON 27893 919 291-7001

MCCAIN, KENNETH FRANKLIN A 034
223 HARPER STREET AC
WINSTON-SALEM 27104 919 765-3756

MCCALL, CHARLES EMORY IM /ID 034
300 S. HAWTHORNE RD. AC
WINSTON-SALEM 27103 919 748-4584

MCCALL, MARVIN MATHER, III CD /IM 060
P. O. BOX 32861 A AC
CHARLOTTE 28232 704 338-3165

MCCALL, MICHAEL ALVIN FP 059
P. O. BOX 1229 A * AC
MARION 28752 704 433-2492

MCCALL, WILLIAM HERBERT OPH 011
601 CITY BUILDING A L
ASHEVILLE 28801 704 253-0421

MCCALL, WILLIAM, JR. A/IM 034
1405 PLAZA DRIVE AC
WINSTON-SALEM 27103 919 765-4131

MCCALLUM, REX MONROE RHU 011
445 BILTMORE AVE. STE. 306 AC
ASHEVILLE 28801 704 258-9533

MCCANN, RICHARD LUCAS GS /CDS 032
BOX 2990, DUMC A AC
DURHAM 27710 919 684-2620

MCCARTNEY, CHERYL FAINTUCH P 032
UNC, WING D, 208-H AC
CHAPEL HILL 27514 919 966-4551

MCCARTNEY, WILLIAM HUGH DR /NM 032
NCMH, DEPT. OF RADIOLOGY AC
CHAPEL HILL 27514 919 966-4384

MCCARTY, RALPH LEEVES CRS 060
843 HEMPSTEAD PL. A L/RT
CHARLOTTE 28207 704 333-1259

MCCASKILL, LLOYD CURTIS EM /FP 083
P. O. BOX 788 A AC
MAXTON 28364 919 844-3236

MCCASKILL, SAMUEL GAULT, JR. OBG 091
RUIN CREEK ROAD A AC
HENDERSON 27536 919 492-8576

MCCASLIN, ROBERT IAN PD 001
530 W. WEBB AVE. AC
BURLINGTON 27215 919 228-8316

MCCAULEY, ROGER LEE P 034
190 CHARLOIS BOULEVARD A AC
WINSTON-SALEM 27103 919 768-6930

MCCLOSKEY, SCOTT MICHAEL NS 018
420 N. CENTER STREET A P AC
HICKORY 28601 704 327-9740

MCCOLLUM, DONALD EUGENE ORS 032
BOX 2919, DUMC A AC
DURHAM 27710 919 684-4055

MCCOMB, JOHN SANFORD OBG 041
522 N. ELAM AVE. AC
GREENSBORO 27403 919 273-0936

MCCONNACHIE, CHARLES CHRIS. ORS 045
1027 FLEMING STREET H
HENDERSONVILLE 28739 704 692-5781

MCCONNELL, MARY HELEN PD 011
675 BILTMORE AVENUE * AC
ASHEVILLE 28803 704 253-1641

MCCONNELL, ROBERT WILLIAM R/NM 074
1711 W. SIXTH STREET A AC
GREENVILLE 27834 919 752-5000

MCCONVILLE, JOSEPH FRANCIS AN 034
2257 BRECKNOCK DR. A AC
WINSTON-SALEM 27103 919 765-2259

MCCONVILLE, ROBERT HOWARD, JR. FP 053
611 WICKER ST. A AC
PO BOX 387
SANFORD 27330 919 774-6023

MCCOOL, JAMES ALVIS PTH 034
3333 SILAS CREEK PARKWAY A P AC
WINSTON-SALEM 27103 919 760-5840

MCCORMICK, CAROLYN BRUMM FP 078
500 W. 27TH STREET AC
LUMBERTON 28358 919 738-3718

MCCORMICK, JOHN THOMAS ORS 014
401 MULBERRY ST. SW. STE. 103 A P AC
LENOIR 28645 704 758-7091

MCCOY, JOSEPH BENNETT, JR. GYN 060
150 PROVIDENCE ROAD A AC
CHARLOTTE 28207 704 377-0461

MCCOY, MARSHALL CLARKE EM 074
T-2 DOCTOR'S PARK APTS. A R
GREENVILLE 27834 919 758-8045

MCCOY, RALPH CARLISLE PTH 065
1952 HILLSBORO ROAD A * AC
WILMINGTON 28401 919 343-7074

MCCOY, THOMAS HATTON ORS 060
2600 E. 7TH ST. A AC
PO BOX 35228
CHARLOTTE 28235 704 372-9820

MCCRACKEN, JOSEPH STUART OPH 032
2609 N. DUKE ST. #203 A * AC
DURHAM 27704 919 471-8495

MCCRORY, MICHAEL ELLIOTT DR 032
2609 N. DUKE ST. STE. 303 A P AC
DURHAM 27704 919 471-8411

MCCUEN, BROOKS WALTON, II OPH 032
BOX 3802, DUMC A AC
DURHAM 27710 919 684-6749

MCCULLEN, BOBBY K.,JR. OPH /OALR 032
207 CONNER DR. APT. 17 * S
CHAPEL HILL 27514 919 942-4623

MCCULLOUGH, CHARLES T.,JR. ORS 011
129 MCDOWELL ST. A AC
ASHEVILLE 28801 704 258-8800

MCCULLOUGH, DAVID LEGARDE U 034
BOWMAN GRAY, DEPT. OF URO. A P AC
WINSTON-SALEM 27103 919 748-4131

MCCUNNIFF, ANN JONES ON /TR 034
1025 WESSYNGTON RD. A AC
WINSTON-SALEM 27104 919 748-4981

MCCUNNIFF, DENNIS EDWARD OBG 034
1025 WESSYNGTON ROAD A AC
WINSTON-SALEM 27104 919 768-6221

MCCURDY, DONALD PITTARD OPH 060
2200 E. 7TH ST. A AC
P. O. BOX 2874 CRS
CHARLOTTE 28204

MCCUTCHAN, JAMES HUTTON IM /ID 032
UNC STUDENT HEALTH AC
CHAPEL HILL 27514 919 966-2281

MCCUTCHEN, THOMAS M.,JR. PD 026
1213 WALTER REED ROAD AC
FAYETTEVILLE 28304 919 484-6121

MCCUTCHEON, WILLIAM B.,JR. TS /CDS 032
1830 HILLANDALE ROAD A P AC
DURHAM 27705 919 383-5531

MCDANIEL, EUGENE MARVIN, JR. OBG 070
1142 N. ROAD STREET AC
ELIZABETH CITY 27909 919 338-0101

ICDANIEL, JACK PASCHAL OBG 026
1320 MEDICAL DRIVE A AC
FAYETTEVILLE 28304 919 323-3301

ICDANIEL, WILLIAM JASON, JR. ORS 092
P. O. BOX 10707 A * AC
RALEIGH 27605 919 781-5600

ICDAVID, JOSHUA DENT 032
711-C HIBBARD DR. A S
CHAPEL HILL 27514 919 933-6482

ICDEVITT, NOEL BRUCE PS /PSF 063
1 MEMORIAL DR. A AC
PINEHURST 28374 919 295-5131

ICDONALD, CARY CRANE 032
2914 N. BROADWAY #1 A S
CHICAGO, IL 60657

ICDONALD, PENELOPE JANE 074
P-3 DOCTOR'S PARK APTS. A S
GREENVILLE 27834 919 752-7557

ICDONELL, CHARLES FRANKLIN,JR. OBG 018
ROUTE #13, BOX 24 AC
HICKORY 28601 704 322-3017

ICDONNELL, KENNETH PAUL 032
1911 ERWIN RD., APT. B A S
DURHAM 27705

ICDOUGAL, EMORY GARY GS 018
RT. #2, BOX 190 AC
CONOVER 28613 704 322-9105

ICDOWELL, ROBERT WARREN GP 092
734 ROCK QUARRY ROAD A AC
RALEIGH 27610 919 832-5389

ICDOWELL, ROY HENDRIX FP 036
100 DOGWOOD LANE A L/RT
BELMONT 28012 704 825-8546

ICDUFFIE, ROBERT STANLEY OBG 011
325 VANDERBILT RD. L/RT
ASHEVILLE 28803 704 254-8166

ICELROY, RICHARD ALLEN GP 080
P. O. BOX 186 A AC
LANDIS 28088 704 857-2711

ICELWEE, ROSS SIMONTON, JR. GS 060
3535 RANDOLPH RD. STE. 201-W A AC
CHARLOTTE 28211 704 364-8100

ICELWEE, THOMAS BRENTON GS 060
3535 RANDOLPH RD. 201-W A AC
CHARLOTTE 28211 919 757-4629

ICENTIRE, JERRILL LEE FP 059
DRAWER 789 AC
OLD FORT 28762 704 668-7694

ICFADDEN, JAMES STUART AN 063
1290 E. INDIANA AVE. AC
SOUTHERN PINE 28387 919 295-7184

ICFADYEN, OSCAR LEE, JR. IM 026
524 VALLEY ROAD A L/RT
FAYETTEVILLE 28305 919 484-0221

ICFALLS, VERNON WENDELL PD 040
624 QUAKER LANE, SUITE 100-A A AC
HIGH POINT 27262 919 882-4187

ICGEE, JOHN ASBURY, JR. GYN 060
3535 RANDOLPH ROAD, SUITE 105 A AC
CHARLOTTE 28211 704 365-0470

ICGEE, JULIAN MURRILL GP 041
1101 N ELM ST., APT. 508 A L/RT
GREENSBORO 27401 919 272-0787

ICGHEE, TERENCE BARCLAY N/IM 011
7 MCDOWELL STREET A AC
ASHEVILLE 28801 704 255-7776

ICGILL, JOHN CHARLES FP 023
P. O. BOX 392 A AC
KINGS MOUNTAIN 28086 704 739-3681

ICGILLICUDDY, DENIS MICHAEL ORS 074
117 MEDICAL DRIVE A P AC
GREENVILLE 27834 919 758-1777

ICGIMSEY, JAMES FRANKS, JR. IM /P 012
WESTERN CAROLINA CENTER AC
ENOLA ROAD
MORGANTON 28655 704 433-2744

ICGINNIS, BARRY DOUGLAS R 060
3535 RANDOLPH RD., STE. 102 A AC
CHARLOTTE 28211 704 331-2274

ICGINNIS, LEE ANN M. AN 060
PO BOX 32861 A AC
CHARLOTTE 28232 704 338-2372

ICGIRT, MURPHY FRANK, JR. ORS 054
KINSTON CLI., NORTH A AC
KINSTON 28501 919 522-4155

MCGOUGH, WILLIAM MARION FP 079
1403 PENNROSE DR. AC
REIDSVILLE 27320 919 349-8461

MCGOVERN, LARRY GS 029
200 CAROLINA AVE. A AC
LEXINGTON 27292 919 249-0144

MCGRATH, JAMES STUART FP 086
EAST BEND FAMILY PRACTICE A AC
P. O. BOX 126
EAST BEND 27018 704 699-3936

MCGRORY, EDWARD JOSEPH,JR. OPH 092
3900 OLD WAKE FOREST ROAD A AC
RALEIGH 27609 919 872-3242

MCGUIRE, JOHN O'BRIEN GS /CDS 011
16 MCDOWELL STREET A AC
ASHEVILLE 28801 704 252-3366

MCGUIRE, MARSDEN HAMILTON 032
1320-10 EPHESUS CHURCH RD. A S
CHAPEL HILL 27514 919 942-8453

MCGUIRT, WILLIAM FREDERICK OTO /ON 034
300 S. HAWTHORNE RD. A * AC
WINSTON-SALEM 27103 919 748-4161

MCGUIRT, WILLIAM FREDERICK,JR. 032
PO BOX 713 A S
CARRBORO 27510 919 929-5170

MCINNIS, ANGUS GUY FP 079
1123 S. MAIN STREET AC
REIDSVILLE 27320 919 342-4286

MCINNIS, TERRY ALICE 034
300 S. HAWTHORNE RD. BOX 257 A S
WINSTON-SALEM 27103 919 760-0935

MCINTOSH, ARCHIBALD NOCK GP 059
219 S. MAIN STREET AC
MARION 28752 704 652-4211

MCINTYRE, ROSS WILLIAM AN 032
BOX 3071, DUMC AC
DURHAM 27710 919 681-4774

MCIVOR, ANDREW CRAIG 034
646 BRENT ST. S
WINSTON-SALEM 27103 919 723-4069

MCJILTON, ROY ALAN OTO 078
4303 LUDGATE ST. A P AC
LUMBERTON 28358 919 738-4226

MCKAY, CLINTON HULL IM 060
5135 HARDISON RD. A L/RT
CHARLOTTE 28226 704 373-0700

MCKAY, HAMILTON W., JR. A/IG 060
2711 RANDOLPH RD. STE. 400 A AC
P. O. BOX 221189
CHARLOTTE 28207 704 372-7900

MCKAY, MICHAEL DIXON GE 092
1212 CEDARHURST DR. AC
RALEIGH 27609 919 872-4850

MCKEE, LEWIS MIDDLETON IM 032
17 SURREY LN., HOPE VALLEY A L/RT
DURHAM 27707 919 489-3262

MCKEE, SCOTT 032
BOX 2847, DUMC A S
DURHAM 27710 919 383-5828

MCKEEL, MILLARD FILMORE NS 011
445 BILTMORE AVE. A * AC
ASHEVILLE 28801 704 258-8500

MCKEITHEN, MURDOCH RITCHIE OBG 083
P. O. BOX 1808 A AC
LAURINBURG 28352 919 276-4432

MCKENZIE, EDWARD BURT GS 080
709 BARKER STREET A AC
SALISBURY 28144 704 633-3441

MCKENZIE, SHEPPARD ALLEN, III OBG /IM 092
3805 COMPUTER DRIVE A AC
RALEIGH 27609 919 781-6200

MCKENZIE, WAYLAND NASH GP 084
P. O. BOX 248 A * L
ALBEMARLE 28002 704 982-3312

MCKEOWN, WILLIAM DAVID IM /GER 041
1100 OLIVE STREET A AC
GREENSBORO 27401 919 378-9906

MCKINLEY, PHILIP HOWARD OPH 034
3111 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27103 919 768-3240

MCKINNEY, ALEXANDER STUART N 044
102 HOSPITAL DR. A P * AC
CLYDE 28721 704 452-0331

MCKINNEY, WILLIAM MARKLEY N/NM 034
BOWMAN GRAY-NEUROLOGY A AC
WINSTON-SALEM 27103 919 748-4494

MCKINNON, WILLIAM JAMES GS 004
407 S. GREENE ST. A L/RT
PO BOX 309
WADESBORO 28170 704 694-2316

MCKNIGHT, RODNEY LEONARD AN 023
P. O. BOX 957 A P AC
SHELBY 28150 704 434-9671

MCLAIN, BILL REID FP 049
ROUTE #2, BOX 542 A RT
MOORESVILLE 28115 704 663-3584

MCLAIN, LEE WILLIAM, JR. N 092
PO BOX 40999 A AC
RALEIGH 27629 919 782-3456

MCLAMB, JOSEPH TIMOTHY ORS 096
2701 MEDICAL OFFICE PLACE A * AC
GOLDSBORO 27530 919 736-2157

MCLAMB, SAMUEL BAGGETT, JR. IM 096
201 COX BOULEVARD AC
GOLDSBORO 27530 919 734-9455

MCLANAHAN, CHARLES SCOTT NS 060
1010 EDGEHILL ROAD, N. A P AC
CHARLOTTE 28207 704 376-1605

MCLAUGHLIN, JAMES CHARLES OBG 034
250 CHARLOIS BOULEVARD A AC
WINSTON-SALEM 27103 919 768-4730

MCLEAN, AUGUSTUS ALEXANDER, JR GP 008
P. O. BOX 98 A L/RT
MURFREESBORO 27855 919 398-3789

MCLEAN, HARRY H., III FP /EM 074
ECU STUDENT HEALTH SERVICE A AC
GREENVILLE 27834 919 551-6841

MCLEAN, JONATHAN OWENS CD /IM 060
2330 RANDOLPH RD-LAUREL AVE. A AC
CHARLOTTE 28207 704 377-0575

MCLEAN, MALCOLM PD 060
1851 E. THIRD STREET, STE. 103 AC
CHARLOTTE 28204 704 333-6659

MCLEAN, WALTER COPLEY, JR. OPH 011
276 E. CHESTNUT ST. A AC
ASHEVILLE 28801 704 255-8978

MCLEAN, WILLIAM THADDEUS, JR. N/PD 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-2316

MCLEAR, RONALD KENT EM 032
3200 CROASDAILE DR. STE. 201 P AC
DURHAM 27705 919 383-0709

MCLELLAND, ROBERT DR 032
3716 ST. MARKS ROAD AC
DURHAM 27707 919 489-0407

MCLENDON, WILLIAM WOODARD CLP /PTH 032
NCMH, DEPT. OF LABORATORIES A AC
CHAPEL HILL 27514 919 966-2317

MCLEOD, JONNIE HORN PD 060
DEPT. OF HUMAN SERVICES * AC
UNC CHARLOTTE STATION
CHARLOTTE 28223 704 597-2171

MCLEOD, MARY MARGARET PD /A 053
P. O. DRAWER 1047 A L/RT
SANFORD 27330 919 775-7642

MCLEOD, MELISSA MYTYLE 032
27 SPRING GARDEN APTS. A S
HOLLAND DR.
CHAPEL HILL 27514 919 489-2989

MCLEOD, MICHAEL EUGENE GE /IM 032
BOX 3073, DUMC AC
DURHAM 27710 919 684-4046

MCLEOD, VIDA CANADAY GP 063
WEYMOUTH APTS., BOX 2001 A L/RT
SOUTHERN PINES 28387 919 692-0333

MCLEOD, WILLIAM LESLIE GYN 060
2711 RANDOLPH ROAD, STE. 305 A * AC
CHARLOTTE 28207 704 372-8020

MCLEOD, WILLIAM LOUIS GP 084
P. O. BOX 100 A L
OAKBORO 28129 704 485-3319

MCLESTER, WILLIAM DUMAS OPH /PTH 026
597 OLIVER STREET A P * AC
FAYETTEVILLE 28304 919 323-2002

MCLOUGHLIN, JILL HICKEY IM 060
217 TRAVIS AVE. A AC
CHARLOTTE 28207 704 372-3350

MCLOUGHLIN, THOMAS M. 032
3924 LINDEN TERRACE A S
DURHAM 27705 919 383-7190

MCMAHAN, THOMAS KEITH IM /FP 097
PO BOX 976 A P AC
1710 PARKWOOD DR.NORTH
WILKESBORO 28697 919 667-2634

MCMANUS, HUGH FORREST, JR. IM 092
722 ST. MARY'S STREET A L
RALEIGH 27605 919 832-6510

MCMILLAN, CAMPBELL WHITE PHO /PD 032
UNC, DEPT. OF PED. 229-H A AC
CHAPEL HILL 27514 919 966-3133

MCMILLAN, JAMES FULFORD P 065
1301 LIVE OAK PARKWAY A RT
WILMINGTON 28403 919 762-8178

MCMILLAN, JAMES H. FP 011
206 ASHELAND AVE. AC
ASHEVILLE 28801 704 258-8681

MCMILLAN, ROBERT MONROE IM 063
PO BOX 178 A L/RT
SOUTHERN PINES 28387 919 692-6885

MCMURRAY, CLARENCE MCCAIN IM 023
808 SCHENCK STREET A AC
SHELBY 28150 704 482-1482

MCMURRY, AVERY WILLIS GS 023
207 LEE STREET A P * AC
SHELBY 28150 704 482-6359

MCMURRY, DAVID WILLIS IM 013
130 LAKE CONCORD ROAD A AC
CONCORD 28025 704 782-3114

MCMURRY, JOHN EUGENE, JR. OTO 065
2311 DELANEY AVE. AC
WILMINGTON 28401 919 762-3866

MCMURRY, WARREN W. GS /VS 023
411 NW 26TH ST. A R
GAINESVILLE, FL 32607 904 376-1611

MCNABB, JAMES WILLIAM FP 049
602 CARPENTER AVE. A AC
MOORESVILLE 28115 704 663-7328

MCNAMARA, JAMES O'CONNELL N 032
400 LAKE SHORE LANE AC
CHAPEL HILL 27514 919 286-0411

MCNAMARA, JOHN FRANCIS, II OBG 060
2711 RANDOLPH ROAD, STE 512 A AC
CHARLOTTE 28207 704 333-4104

MCNEIL, QUINCY ALBERT, JR. OBG 034
2909 MAPLEWOOD AVENUE AC
WINSTON-SALEM 27103 919 765-2802

MCNEILL, CLAUDE ACKLE, JR. FP 086
248 DUTCHMAN CREEK RD. A L/RT
ELKIN 28621 919 835-3136

MCNEILL, DONALD DRAKE, JR. PTH /CLP 014
P. O. DRAWER 680 A * AC
LENOIR 28645 704 754-7063

MCNEILL, MARY DAVIS FP /PD 025
P. O. BOX 719 A AC
HAVELOCK 28532 919 447-3613

MCNIEL, JESSE NEAL P 001
1602 MEMORIAL DRIVE A P AC
BURLINGTON 27215 919 227-1123

MCPHAIL, SCHUBERT DEAN OBG 041
1517 N. CHURCH ST. A AC
GREENSBORO 27408 919 379-8460

MCPHERSON, HARRY THURMAN END /IM 032
DUKE UNIV. MED. CTR. AC
DURHAM 27710 919 684-2186

MCPHERSON, SAMUEL DACE, JR. OPH 032
1110 W. MAIN STREET A P AC
DURHAM 27701 919 682-9341

MCQUADE, JOHN FRANCIS, III CD 025
4511 GLOUCESTER DRIVE AC
NEW BERN 28560 919 633-1010

MCQUEEN, FRED DOUGLAS, JR. FP 077
P. O. DRAWER 1257 AC
HAMLET 28345 919 895-3138

MCQUEEN, JAMES AUBREY PD 083
418 KING STREET AC
LAURINBURG 28352 919 276-7570

MCQUEEN, ROBERT BRUCE, JR. FP 001
780 WOODY DRIVE AC
GRAHAM 27253 919 228-1354

MCRAE, MARVIN EVERETT D 041
1009 COUNTRY CLUB DR. A L/RT
GREENSBORO 27408

MCRAE, WILLIAM KENNETH GP 041
UNC-G STUDENT HEALTH CENTER AC
GREENSBORO 27412 919 334-5340

MCREE, CHRISTINE ELLIS CHP 092
DOROTHEA DIX HOSP.-PSY AC
RALEIGH 27611 919 733-5344

MCWHORTER, JOE MAURICE NS 034
300 S. HAWTHORNE RD. A * AC
WINSTON-SALEM 27103 919 748-4020

MCWHORTER, ROBERT LIGON IM 013
68 LAKE CONCORD ROAD, N.E. A AC
CONCORD 28025 704 782-3135

MEADOR, PHILIP D., JR. D 091
MEDICAL SERVICE BLDG. AC
RUIN CREEK ROAD
HENDERSON 27536 919 492-2123

MEADS, MANSON IM 034
300 S. HAWTHORNE RD. A L/RT
WINSTON-SALEM 27103 919 748-4301

MEANS, ROBERT LEE GS 034
PO BOX 5082, ARDMORE STATION A AC
WINSTON-SALEM 27103 919 725-1602

MEARS, GREGORY DON EM 034
953 KEARNS AVE. R
WINSTON-SALEM 27106 919 723-7160

MEASE, WILLIS EUGENE FP 067
209 S. CHURCH ST. A P * AC
RICHLANDS 28574 919 324-3105

MEBANE, GILES YANCEY FP 001
202 S. FIFTH STREET A AC
MEBANE 27302 919 563-9341

MEBANE, JOHN GILMER IM 081
P. O. BOX 1405 A L/RT
RUTHERFORDTON 28139 704 287-3515

MEDDERS, JAMES DOYLE GP /CD 035
113 JOLLY STREET A P AC
LOUISBURG 27549 919 496-4250

MEDDERS, RUSSELL GLEN 032
221 BRANDON ROAD R
BALTIMORE, MD 21212 919 967-8927

MEDLIN, CHARLES THOMAS FP 092
2000 HIGHWAY 70 WEST AC
GARNER 27529 919 772-3266

MEDOFF, JEFFREY ROY GE 041
721 GREEN VALLEY RD. A AC
GREENSBORO 27408 919 378-0774

MEECE, JEANNINE MARIE PD 074
1800 W. FIFTH ST., STE. #8 AC
GREENVILLE 27834 919 758-1750

MEEK, JOE BERNARD ORS 026
1300 MEDICAL DRIVE AC
FAYETTEVILLE 28304 919 484-2171

MEGA, LESLY TAMARIN CHP /P 074
ECU, DEPT. OF PSYCHIATRY A AC
GREENVILLE 27858 919 551-2673

MEHTA, HASUMATI VIJAYKUMAR FP /OBG 026
1611 OWEN DR. AC
FAYETTEVILLE 28304 919 323-4091

MEHTA, NALIN CHIMANLAL IM /ON 084
815 N. THIRD ST. AC
ALBEMARLE 28001 704 983-3508

MEHTA, VIJAYKUMAR B. HEM /ON 026
1611 OWEN DR. AC
FAYETTEVILLE 28304 919 323-4091

MEIS, PAUL JEAN OBG /NPM 034
BOWMAN GRAY,DEPT. OF OBG A AC
WINSTON-SALEM 27103 919 748-4039

MELARAGNO, HELEN P. FP 060
2001 E. FIFTH STREET A AC
CHARLOTTE 28204 704 373-1663

MELCHIOR, JOSEPHINE T. PD 098
1124 NIBLICK DRIVE L/RT
ROCKY MOUNT 27801 919 442-8290

MELERO, ANDRES TARCISIO GS /TS 073
P. O. BOX 28 A AC
ROXBORO 27573 919 599-2953

MELGES, FREDERICK T. P 032
BOX 2995, DUMC A AC
DURHAM 27710 919 684-3655

MELTON, BARRY CLINE 074
1095-K CHEYENNE COURT A S
GREENVILLE 27834 919 756-2917

MELTON, JAMES DURANT FP 012
ROUTE #3, BOX 50 A AC
MORGANTON 28655 704 437-9401

MELTON, JAMES WILLARD, JR. 032
302-F BOLINWOOD APTS. A S
CHAPEL HILL 27514 919 942-1729

MELTON, KATHERINE ROSE GS /NTR 060
1900 RANDOLPH RD. #718 A RT
CHARLOTTE 28207 704 332-6756

MELTZER, MORTON FP /P 092
ROUTE 1, BOX 231-A A P AC
CAMERON 28326 919 245-4819

MELVIN, TERESA BOWEN 032
RT. #1, BOX 9F A S
LONG ISLAND 28648 704 478-3436

MELVIN, WINSLOW BRITT AN 074
1109 BUCKLEY RD. APT. #3 A R
LIVERPOOL, NY 13088 315 451-2637

MENDELSOHN, STEVEN LOUIS RHU /IM 011
445 BILTMORE CTR., STE. 306 AC
ASHEVILLE 28801 704 258-9533

MENNILLO, ROGER NILES 032
811 VICKERS AVE. A S
DURHAM 27701 919 688-0527

MENSCER, DARLYNE FP 060
DEPT. OF FAMILY PRACTICE A * AC
CHARLOTTE MEM. HOSP, BOX 32861
CHARLOTTE 28232 704 338-3172

MEREDITH, JAY WAYNE TRS /TS 034
363 SPRINGDALE AVENUE A AC
WINSTON-SALEM 27104 919 748-2011

MEREDITH, JESSE HEDGEPETH GS /TS 034
BOWMAN GRAY-SURGERY A * AC
WINSTON-SALEM 27103 919 748-4278

MERLO, RICHARD BARTLETT R/NM 086
773 BROOKWOOD DRIVE A AC
ELKIN 28621 919 835-3722

MERRILL, RICHARD HOSMER NEP /IM 074
ECU SCHOOL OF MEDICINE A AC
GREENVILLE 27834 919 551-2545

MERTESDORF, JAMES MICHAEL GE 060
1350 S. KINGS DR. P AC
CHARLOTTE 28207 704 372-8750

MERWARTH, CHARLES RICHARD IM /A 092
2800 BLUE RIDGE BLVD. #503 AC
RALEIGH 27607 919 782-7500

MESROBIAN, HRAIR-GEORGE U 032
428 BURNETT-WOMACK 229-H A AC
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514 919 966-2572

MESSENHEIMER, JOHN ANDREW N/IM 032
UNC, DEPT. OF NEUROLOGY A AC
CHAPEL HILL 27514 919 966-3707

METZEROTT, KIRK OLIVER AN 060
1600 E. THIRD ST. A AC
CHARLOTTE 28204 704 843-3109

METZGER, GEORGE ANDREW IM /NEP 014
322 MULBERRY ST., SW A AC
PO BOX 1020
LENOIR 28645 704 758-5544

METZGER, W. JAMES IM /AI 074
ECU, DEPT. OF MEDICINE A AC
GREENVILLE 27834 919 551-2562

MEWBORN, QUENTIN ALEXANDER, JR FP 074
P. O. BOX 1966 A AC
GREENVILLE 27834 919 752-7133

MEYER, ANDREW FREDERIC AN 032
BOX 3083, DUKE MED. CENTER AC
DURHAM 27710 919 681-6526

MEYER, ANTHONY ANDREW GS 032
UNC, BURNETT-WOMACK AC
229-H, ROOM 164
CHAPEL HILL 27514 919 966-4321

MEYER, CLINTON LOUIS GE /IM 065
1202 MEDICAL CENTER DR. A AC
WILMINGTON 28401 919 341-3345

MEYER, DAVID DAVIS 034
1800 S. HAWTHORNE ROAD AC
WINSTON-SALEM 27103 919 768-1860

MEYER, GEORGE WRIGHT OPH 032
1106 HILLANDALE ROAD A AC
DURHAM 27705 919 286-9663

MEYER, HOBART, JR. OBG 078
1920 E. BASELINE RD. AC
TEMPE, AZ 85283 602 345-5000

MEYER, ROBERT SWENSON FP 096
307 CASHWELL DR. A P AC
GOLDSBORO 27530 919 658-4954

MEYERS, JAMES HOWARD PTH 034
2540 EMPIRE DR. AC
WINSTON-SALEM 27103 919 722-9410

EYERS, WILLIAM CLARK GS /CRS 032
BOX 3041, DUMC A AC
DURHAM 27710 919 684-6437

EYERSON, MARTIN BENJAMIN TR 065
NEW HANOVER MEM. HOSP. A P AC
WILMINGTON 28403 919 343-7017

EYMANDI, ASSAD P/N 026
1212 WALTER REED ROAD A * AC
FAYETTEVILLE 28304 919 485-6166

EZER, HOWARD CABITT OBG /END 041
1305 W. WENDOVER AVENUE A AC
GREENSBORO 27408 919 273-2835

ICHAEL, DOUGLAS WORTH FP 018
PO BOX 1239 A AC
CONOVER 28613 704 464-3821

ICHAEL, JAY BENJAMIN 032
TAR HEEL MANOR APTS. R-7 A S
HIGHWAY 54 BYPASS
CARRBORO 27510 919 929-4809

ICHAEL, OTIS BENTLEY IM /CD 011
DOCTOR'S BLDG, SUITE 301 A AC
ASHEVILLE 28801 704 255-8947

ICHAL, RICHARD GLENN FP 064
1041 NOELL LANE, STE. 101 AC
ROCKY MOUNT 27801 919 443-3133

ICHAL, WILLIAM NORWOOD, JR. PD 040
624 QUAKER LANE, SUITE 200-A A AC
HIGH POINT 27262

ICHALAK, DANIEL PETER OBG 098
1700 S. TARBORO ST. A AC
WILSON 27893 919 291-9010

ICHELS, RONALD CHARLES IM /END 034
250 CHARLOIS BLVD. A AC
WINSTON-SALEM 27103 919 768-4730

IKUS, KEVIN PETER FP 018
PO BOX 1239 AC
CONOVER 28613 704 464-3821

ILAM, WILLIAM FREER PTH 023
PO BOX 1268 A * AC
SHELBY 28150 704 487-3147

ILHOLM, RICHARD LEROY FP 045
2305 ASHEVILLE HIGHWAY A AC
HENDERSONVILLE 28739 704 692-7122

ILLER, ALMA ELIZABETH P/IM 080
1111 CRESTVIEW DRIVE A P AC
SALISBURY 28144 704 637-2729

ILLER, ANDREW CLEVELAND,III FP 036
311 W. THIRD AVENUE AC
GASTONIA 28052 704 865-4231

ILLER, DAVID CHARLES ORS 033
123 HOSPITAL DR. A P AC
TARBORO 27886 919 823-7212

ILLER, DAVID EDMOND CD /IM 032
CENTRAL MEDICAL PARK A AC
2609 N. DUKE ST., STE. 403
DURHAM 27704 919 471-8441

ILLER, DAVID T. CLP 074
PITT CO. MEMORIAL HOSPITAL A AC
DEPT. OF CLINICAL PATHOLOGY
GREENVILLE 27834 919 551-9020

ILLER, DONALD STUART ND /ON 023
1405-B N. LAFAYETTE STREET AC
SHELBY 28150 704 482-8936

ILLER, DUDLEY 026
150 ROBESON STREET A AC
FAYETTEVILLE 28301 919 483-3156

ILLER, EDITH HAMILTON IM /END 060
1350 S. KINGS DRIVE A AC
CHARLOTTE 28207

ILLER, EDMUND EUGENE OPH 095
200 DOCTORS DRIVE A AC
BOONE 28607 704 264-0042

ILLER, EDWARD JAMES GP 005
P. O. BOX 27 A AC
JEFFERSON 28640 919 246-7433

ILLER, EMERY CLYDE, JR. END /IM 034
300 S. HAWTHORNE RD. A * AC
WINSTON-SALEM 27103 919 748-4274

ILLER, GEORGE JOHN, JR. ORS 007
1207 HIGHLAND DRIVE A AC
WASHINGTON 27889 919 946-6513

ILLER, GEORGE ROLFE ORS 036
902 COX ROAD, SUITE A A L/RT
GASTONIA 28052 704 865-6487

ILLER, HAROLD MELTON EM /FP 013
4367 WEDDINGTON RD. AC
CONCORD 28025 704 786-2111

MILLER, HENRY SHELTON, JR. CD /IM 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4467

MILLER, HERSEY EUGENE OTO /HNS 049
702 HARTNESS ROAD A AC
STATESVILLE 28677 704 873-5224

MILLER, HORACE WILLIAM, IV PS 060
586 WALNUT ST. A R
CARRIAGE HOUSE
NEW ORLEANS, LA 70118

MILLER, HORACE WILLIAM, JR. IM /CD 026
1766 METROMEDICAL DR. AC
FAYETTEVILLE 28304 919 483-7090

MILLER, HOWARD EDWARD ORS 001
723 EDITH STREET AC
BURLINGTON 27215 919 227-4256

MILLER, IRA BEN IM 040
110 CHURCH STREET A AC
HIGH POINT 27260 919 884-5888

MILLER, JOEL BYRON OBG 018
P. O. DRAWER 38 A AC
HICKORY 28601 704 322-4140

MILLER, MARK F. 032
2752 MIDDLETON #31-J A S
DURHAM 27705 919 383-0025

MILLER, MILTON LEONARD PYA /P 032
17 LOGGIN TRAIL A L
DURHAM 27707 919 493-6059

MILLER, PHILIP RAIFORD IM /CD 092
3100 BLUE RIDGE RD. A P AC
RALEIGH 27612 919 781-7500

MILLER, ROBERT EVANS ORS 060
1822 BRUNSWICK AVENUE A P * AC
CHARLOTTE 28207 704 373-0544

MILLER, ROBERT MICHAEL FP 023
1198 WYKE ROAD A AC
SHELBY 28150 704 487-1148

MILLER, STEPHEN MAURICE FP /EM 041
603 DOLLY MADISON AC
GREENSBORO 27410 919 852-7530

MILLER, WALTON H., JR. GS /GYN 096
1008 E. ASH STREET A L/RT
GOLDSBORO 27530 919 734-1141

MILLER, WILLIAM CAREY, JR. R 026
1653 BANBURY DRIVE AC
FAYETTEVILLE 28304 919 484-6881

MILLER, WILLIAM STACEY D 092
3803-A COMPUTER DR. A AC
RALEIGH 27609 919 782-2152

MILLING, JAMES REAVES FP 044
718 BRUNSWICK DRIVE AC
WAYNESVILLE 28786 704 456-5566

MILLNS, DALE THOMAS U 025
800 HOSPITAL DRIVE AC
NEW BERN 28560 919 633-2712

MILLS, JOHN FRANKLIN FP 091
RUIN CREEK ROAD A AC
HENDERSON 27536 919 492-3152

MILLS, MICHAEL KENNETH OBG 034
3402 DONEGAL DR. A AC
CLEMMONS 27012 919 722-6891

MILLS, RANDOLPH DENNIS FP 091
RUIN CREEK RD. A AC
MEDICAL ARTS CTR.
HENDERSON 27536 919 492-3152

MILLS, STEPHEN ALAN CDS /TS 034
3320 PADDINGTON LANE A AC
WINSTON-SALEM 27106 919 748-4488

MILLS, WARDELL HARDEE OPH 041
1202 COUNTRY CLUB DRIVE A L/RT
GREENSBORO 27408 919 274-3391

MILLSAPS, DAVID MCIVER PD 014
226-H MORGANTON BOULEVARD AC
LENOIR 28645 704 758-5111

MILLWARD, DAVID KENT CD /IM 092
1212 CEDARHURST DR. AC
RALEIGH 27609 919 872-4850

MILNER, THOMAS HAMILTON, III DR 034
3155 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27104 919 773-3877

MILTICH, MICHAEL FIEGEL OTO /HNS 060
1600 E. THIRD STREET A P * AC
CHARLOTTE 28204 704 372-3300

MILTON, CECIL JEROME ORS 060
225 HAWTHORNE LANE A * AC
CHARLOTTE 28204 704 334-0809

MILTON, DAVID THOMAS DR 011
445 BILTMORE, STE. 301 A AC
ASHEVILLE 28801 704 255-3562

MIMS, GROVER RAY, III AN 034
2580 COUNTRY CLUB ROAD A AC
WINSTON-SALEM 27104 919 748-4791

MINARD, RAYMOND BRUCE AN 074
322 DUPONT CIRCLE A P AC
GREENVILLE 27834 919 756-9168

MINCEY, GREGORY JULIAN OPH 063
2170 MIDLAND ROAD A P * AC
SOUTHERN PINES 28387 919 295-2100

MINICK, JAMES ELDER GP 034
5029 COUNTRY CLUB ROAD AC
WINSTON-SALEM 27104 919 768-9515

MINICK, RUSSELL CLARK FP 034
1504 WILLIAMS RD. AC
LEWISVILLE 27023 919 768-9515

MINTEER, WILLIAM JEFFREY CD /IM 074
#8 PALMETTO PLACE AC
GREENVILLE 27858 919 752-6101

MINTZ, RUDOLPH IVEY, JR. OBG 054
1906 STANTON ROAD A AC
KINSTON 28501 919 522-3373

MINTZER, MELANIE FP 032
210 S. CAMERON ST. AC
HILLSBOROUGH 27278 919 732-9311

MINUS, JOSEPH SHEPPARD PD 023
101 GROVER STREET A AC
SHELBY 28150 704 482-1435

MIRAGLIA, CHARLES CARMEN 034
1057 S. HAWTHORNE RD. A * S
WINSTON-SALEM 27103 919 723-2299

MIRAGLIA, COLLEEN P. FP 034
1057 S. HAWTHORNE RD. A R
WINSTON-SALEM 27103 919 723-2299

MISHKIND, STEVEN HART 034
2500-C MILLER PARK CIRCLE A S
WINSTON-SALEM 27103 919 722-0477

MISULIA, ANDREW G. FP 043
705 TILGHMAN DR. A P AC
DUNN 28334 919 892-4096

MITCHELL, BRIAN P. IM 020
PO BOX 158 AC
MURPHY 28906 704 837-2696

MITCHELL, CALVIN HARRISON OPH 032
BOX 3802, DUKE UNIV. EYE CTR. A * AC
DURHAM 27710 919 684-2841

MITCHELL, CHARLES K., JR. 074
1400 HOOKER RD., APT. E A S
GREENVILLE 27834 919 756-9098

MITCHELL, JOHN SCOTT FP 064
1041 NOELL LANE, STE. 101 P AC
ROCKY MOUNT 27801 919 443-3133

MITCHELL, JOYCE MARIE EM /IM 074
RT. #1, BOX 416E A AC
BETHEL 27812 919 551-4757

MITCHELL, LANDIS PATTERSON FP 081
200 OHIO STREET A L
SPINDALE 28160 704 286-2391

MITCHELL, LEWIS DEAN FP 041
1016 PROFESSIONAL VILLAGE AC
GREENSBORO 27401 919 379-1156

MITCHELL, WILLIAM E. GS /GP 087
P. O. BOX 760 A P AC
BRYSON CITY 28713 704 488-2283

MITCHENER, CALVIN CHAMBERS D 060
1600 E. FIFTH STREET A P AC
CHARLOTTE 28204 704 376-1523

MITCHENER, JAMES SAMUEL, JR. GS 083
P. O. BOX 1808 A AC
LAURINBURG 28352 919 276-3541

MOBLEY, THOMAS BARNETT, III U 065
1905 GLEN MEADE ROAD A AC
WILMINGTON 28403 919 763-6251

MOCK, CHARLES GLENN PTH 060
BOX 917-0, ROUTE #1 A L/RT
MOREHEAD CITY 28557 919 354-3153

MOCK, DAVID CARLTON GP 029
208-C W. CENTER STREET AC
LEXINGTON 27292 704 246-5826

MODROW, PETER ALBERT AN /P 092
805 FAULKNER PLACE A AC
RALEIGH 27609 919 876-0581

MOELLER, ARLYN MCCLAY FP 026
118 POMPTON DRIVE AC
FAYETTEVILLE 28304 919 424-6104

MOELLER, GARLAND RADFORD RHU /IM 025
P. O. BOX 68 A AC
POLLOCKSVILLE 28573 919 224-4591

MOELLER, MARK BOLTON ID /IM 025
P. O. BOX 68 A AC
POLLOCKSVILLE 28573 919 633-1010

MOELLER, WENDY PAULSON GE /IM 025
P. O. BOX 68 A AC
POLLOCKSVILLE 28573 919 633-1010

MOFFATT, ROBERT CARR ON /GS 011
30 VICTORIA ROAD A * AC
ASHEVILLE 28801 704 258-2464

MOFFETT, ALEXANDER STUART GS 002
70 W. LUCERNE CIR., APT. 409 A L/RT
ORLANDO, FL 32801 305 841-1310

MOFRAD, ALI SABOORTINAT PD /PHO 055
P. O. BOX 1160 AC
LINCOLNTON 28093 704 735-1441

MOHAMED, ADEL WAGDI U 051
415 N. SEVENTH STREET A AC
SMITHFIELD 27577 919 934-5955

MOHR, JACK ELMER OBG 032
706 WELLINGTON DRIVE * AC
CHAPEL HILL 27514 919 967-1441

MOHR, LINDA CHAPPELL OBG 092
1100 DRESSER COURT A AC
RALEIGH 27609 919 876-8225

MOKRIS, JEFFREY GEORGE ORS 060
1822 BRUNSWICK AVE. A P AC
CHARLOTTE 28207 704 373-0544

MOLTER, DAVID W. 032
2974 CAROLYN DRIVE A S
DURHAM 27703 919 596-4936

MONCLA, ALFRED MARIE OBG 070
1134 N. ROAD STREET AC
ELIZABETH CITY 27909 919 338-2151

MONG, JAMES ARTHUR OBG 092
100 S. BOYLAN AVENUE A AC
RALEIGH 27603 919 832-5529

MONROE, CHARLES T. PD /PH 074
1825 W. SIXTH ST. AC
GREENVILLE 27834 919 752-4141

MONROE, CLEMENT ROSENBURG GS 063
P. O. BOX 1000 A L/RT
PINEHURST 28374 919 295-5694

MONROE, EDWIN WALL IM 074
ECU SCHOOL OF MEDICINE A P * AC
GREENVILLE 27834 919 551-4606

MONROE, GEORGE CLARKE, III IM 013
470 LAKE CONCORD RD. A P AC
CONCORD 28025 704 786-7122

MONROE, JOHN HOWARD GYN 034
2909 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27103 919 765-2802

MONROE, JOHN LAUCHLIN OTO /HNS 063
PINEHURST SURGICAL CLINIC A P * AC
PINEHURST 28374 919 295-2161

MONROE, JOHN THADDEUS, JR. PYA /P 032
1100-A FRANKLIN SQUARE A AC
CHAPEL HILL 27514 919 967-5289

MONROE, LANCE TRUMAN OBG /OBS 013
476 CAMROSE CIRCLE, NE A L
CONCORD 28025 704 782-3717

MONROE, WILLIAM MURCHISON OPH 074
DOCTORS PK, STE. I A AC
STANTONSBURG ROAD
GREENVILLE 27834 919 758-4166

MONSON, DONALD MALVIN R 032
3751 BENTLEY DRIVE A P * AC
DURHAM 27707 919 471-8411

MONSON, ROBERT CHARLES, II GS 060
3535 RANDOLPH RD., STE. 201-W A AC
CHARLOTTE 28211 704 364-8100

MONTANA, GUSTAVO SANTOS TR 032
DUMC-RADIATION ONC. A AC
DURHAM 27710 919 684-6183

MONTGOMERY, EMMETT FULCHER 074
804 FORBES ST. A S
GREENVILLE 27834 919 752-1490

MONTGOMERY, JAMES HUGH R/IM 011
445 BILTMORE CTR., STE. 301 A AC
ASHEVILLE 28801 704 255-3565

†MONTGOMERY, JOHN CHRISTIAN AN 060
2022 NORTON ROAD A L
DECEASED - 4-13-87
CHARLOTTE 28207 704 334-4950

MONTGOMERY, STEPHEN PAUL ORS 092
P. O. BOX 10707 A AC
RALEIGH 27605 919 781-5600

MONTGOMERY, WAYNE SWOPE ORS 011
129 MCDOWELL ST. A AC
ASHEVILLE 28801 704 258-8800

MONTGOMERY, WILLIAM GARDNER U 034
2932 LYNDHURST AVE. A AC
WINSTON-SALEM 27103 919 765-4021

MONTY, LOUIS HAROLD P 032
610 DOUGLAS ST., #A-104 A R
DURHAM 27705 919 286-2188

MOODY, DIXON MCGUIRE DR 034
BOWMAN GRAY-RADIOLOGY A AC
WINSTON-SALEM 27103 919 748-4435

MOORE, ARL VAN, JR. DR 060
5201 MORROWICK RD. A AC
CHARLOTTE 28226 704 365-0343

MOORE, BARRY ALLEN P 074
600 MEDICAL DRIVE A AC
GREENVILLE 27834 919 758-6080

MOORE, CAROL ANN 074
110 S. CONTENTNEA ST., APT. C A S
FARMVILLE 27828 919 753-2015

MOORE, DAVID HARRY GYN /ON 032
UNC, DIV. OF GYN-ONC A R
N.C. MEMORIAL HOSP.
CHAPEL HILL 27514 919 966-1196

MOORE, DAVID HUDDLER PD /ID 060
7110 LAWYERS ROAD AC
CHARLOTTE 28212 704 568-6500

MOORE, DONALD TORIAN OBG 032
601 FAYETTEVILLE STREET AC
DURHAM 27701 919 682-9241

MOORE, DONALD WILSON FP 079
401 W. DECATUR ST. AC
MADISON 27025 919 548-9618

MOORE, EDWARD EUGENE OPH 011
3 DOCTOR'S PARK * AC
ASHEVILLE 28801 704 252-6741

MOORE, HORACE GREELEY, JR. GS /TS 065
1414 MEDICAL CENTER DRIVE A AC
WILMINGTON 28401 919 763-7363

MOORE, JOHN ANDREW IM /RHU 041
1511 WESTOVER TERRACE A AC
GREENSBORO 27408 919 373-0951

MOORE, JOHN HERBERT, III GE /IM 060
2115 EAST 7TH ST.,STE. 104 A AC
CHARLOTTE 28204 704 377-4009

MOORE, LAWRENCE WHITE, JR. OPH 032
1110 W. MAIN STREET A AC
DURHAM 27701 919 682-9341

MOORE, MELISA DARA 032
102-B ISLEY STREET A * S
CHAPEL HILL 27514 919 929-7263

MOORE, PAUL MILTON, JR. FP 007
619 E. 12TH STREET AC
WASHINGTON 27889 919 946-1146

MOORE, PIERCE JONES, JR GS 045
#1 P.J.'S PLACE A AC
HENDERSONVILLE 28739 704 684-9873

MOORE, RALPH BRYAN, JR. PD 065
CHILDREN'S CLINIC AC
1920 16TH STREET
WILMINGTON 28403 919 763-2072

MOORE, ROBERT ALEX, JR. NS 065
1404 MEDICAL CENTER DRIVE A AC
WILMINGTON 28401 919 763-6578

MOORE, ROBERT MORGAN ORS 065
2001 S. 17TH STREET A AC
WILMINGTON 28401 919 763-7344

MOORE, RONALD ALVIN IM /ON 025
702 NEWMAN ROAD AC
MCCARTHY SQUARE
NEW BERN 28560 919 633-5333

MOORE, THOMAS JOSEPH ORS 060
1822 BRUNSWICK AVE. A AC
CHARLOTTE 28207

MOORE, THOMAS PHILLIP R 067
ONSLOW MEMORIAL HOSPITAL A AC
JACKSONVILLE 28540 919 577-2274

MOORE, WILLIAM DONALD FP 043
P. O. BOX 280 A * AC
COATS 27521 919 897-6423

MOORE, WILLIAM LOCKE PD 041
616 PASTEUR DRIVE A AC
GREENSBORO 27403 919 292-1353

MOORE, WILLIAM MORGAN, III OBG 01
403 S. KING STREET A AC
MORGANTON 28655 704 433-466

MOOREFIELD, WM. GUERRANT, JR. ORS 06
120 PROVIDENCE ROAD A AC
CHARLOTTE 28207 704 377-035

MOORING, STEWART LEE R/NM 08
RUTHERFORD HOSPITAL A AC
RUTHERFORDTON 28139 704 287-737

MORCOS, VICTOR HANNA P 04
522 N. ELAM AVE., STE. 203 AC
GREENSBORO 27403 919 854-239

MOREHEAD, ROBERT PAGE PTH 03
1051 ARBOR ROAD A L/R
WINSTON-SALEM 27104 919 722-287

MORESCHI, RAFAEL MARIANO IM /CD 09
105-A KILMAYNE DR. A P AC
CARY 27511 919 467-225

MORESS, RALPH LOUIS P 02
P. O. BOX 2068 A P AC
FAYETTEVILLE 28302 919 323-060

MORETZ, FRANK HANNON AN 01
202 DOCTOR'S BUILDING A * AC
ASHEVILLE 28801 704 254-196

MORETZ, JOSEPH ALFRED,III ORS 01
250 18TH ST. CIRCLE, SE A AC
HICKORY 28602 704 322-517

MOREWITZ, NANCY D. N 01
420 N. CENTER ST. A P AC
HICKORY 28601 704 327-441

MORGAN, BENJAMIN EDWARD OBG 06
200 NASH MEDICAL ARTS MALL A AC
ROCKY MOUNT 27801 919 443-594

MORGAN, HERMAN GRADY, JR. PD 06
1920 S. 16TH ST. AC
WILMINGTON 28401 919 762-394

MORGAN, JOEL CLARENCE CDS 06
1414 MEDICAL CENTER DR. A AC
WILMINGTON 28401 919 763-736

MORGAN, JOHN GARLAND GS /CDS 03
101 CLINIC DR. AC
TARBORO 27886 919 823-210

MORGAN, MELVIN KENNETH FP 03
5029 COUNTRY CLUB RD. A AC
WINSTON-SALEM 27104 919 773-007

MORGAN, NANCY ELAINE FP 01
401 MULBERRY ST., SW, STE. 200 AC
LENOIR 28645 704 754-070

MORGAN, RALPH SILER CD /IM 05
P. O. BOX 668 A L/RT
SYLVA 28779 704 586-213

MORGAN, RICHARD EARL GS 02
5211 TRENTWOODS DR. AC
NEW BERN 28560 919 633-2081

MORGAN, RICHARD YOUNG IM /GP 02
100 CAROLINA AVE. A AC
LEXINGTON 27292 704 246-583

MORGAN, WILLIAM WATSON, JR. PDS /GS 011
P. O. BOX 15083 A P AC
ASHEVILLE N C 28813 704 274-4105

MORICLE, CHARLES HUNTER GS /ABS 079
1223 CRESCENT DR. A * L/RT
REIDSVILLE 27320 919 349-8590

MORIN, JUDITH K. 032
5002 MCCORMICK RD. A S
DURHAM 27713

MORRELL, ROBERT X., JR. PM 041
MOSES CONE HOSPITAL A AC
1200 N. ELM ST.
GREENSBORO 27401 919 379-3667

MORRIS, ARTHUR SHERMAN, JR. OBG 011
80 VICTORIA ROAD A P AC
ASHEVILLE 28801 704 255-8900

MORRIS, EDWIN LEE FP 056
8 RIVERVIEW ST., STE. 201 AC
FRANKLIN 28734 704 369-9531

MORRIS, GEORGE THOMAS ARNOLD IM 001
711 HERMITAGE ROAD A * AC
BURLINGTON 27215 919 226-9317

MORRIS, JAMES FRANCIS PD 096
P. O. BOX 1153 A P AC
GOLDSBORO 27530 919 734-4014

MORRIS, JAMES JOSEPH, JR. CD /IM 032
BOX 2993, DUMC AC
DURHAM 27710 919 684-4329

ORRIS, JONATHAN EDWARD P 032
103 ROCK SPRING COURT A R
CARRBORO 27510 919 967-6779

ORRIS, KENNY JORDAN R 065
216 OYSTER BAY LN. A AC
WILMINGTON 28403 919 343-7069

ORRIS, LESLIE MORGAN R 036
3636 BRENTWOOD DR. A L/RT
GASTONIA 28054 704 865-4430

ORRIS, MARSHALL G., JR. GS /TS 041
#6 ASHTON SQUARE AC
GREENSBORO 27408 919 274-8444

ORRIS, MARY LIDE R/NM 001
440 CEDARWOOD DRIVE A * AC
BURLINGTON 27215 919 584-9872

ORRIS, RAE HENDERSON GP 013
111 LOUISE DRIVE, S.E. A L/RT
CONCORD 28025 704 782-4918

ORRISEY, LEMONT FP 001
723 EDITH STREET AC
BURLINGTON 27215 919 229-4791

ORRISON, FRANK CRAWFORD GP 044
P. O. BOX 1549, MEDICAL BLDG. A AC
CANTON 28716 704 648-5215

ORRISON, HUGH MAXWELL, JR. OPH 063
P. O. BOX 460 A P * AC
PINEHURST 28374 919 295-6809

ORRISON, LEON MACMILLAN OBG 016
9 MEDICAL PARK AC
MOREHEAD CITY 28557 919 247-4297

ORRISON, ROBERT HOLCOMBE OBG 026
331 FAIRFIELD RD. L/RT
FAYETTEVILLE 28303 919 867-1044

ORRISON, ROGER WILLIAM PTH /CLP 011
4 LUCKY LANE L/RT
ASHEVILLE 28804 704 252-4868

ORROW, DOROTHY JACKSON PD /A 006
P. O. BOX 95 AC
BANNER ELK 28604 704 898-9440

ORROW, RUFUS CLEGG OTO /A 006
P. O. BOX 95 AC
BANNER ELK 28604 704 898-9440

ORROW, SARAH TAYLOR PH /PD 092
3304 WADE AVE. A * AC
RALEIGH 27607 919 851-9305

ORTENSON, RODNEY ALLEN ORS /HS 041
2017 ST. ANDREWS ROAD A AC
GREENSBORO 27408 919 275-6318

ORTON, DUNCAN, JR. PDS /GS 060
2104 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 377-3900

OSELEY, JAMES RENNIE FP 092
340 N. MAIN STREET AC
WAKE FOREST 27587 919 556-4826

OSELEY, ROBERT GALLOWAY PD 092
BOX 7304, NCSU-S.H.S. AC
RALEIGH 27695 919 737-2563

OSELEY, WALTON STROZIER 032
311 S. LASALLE ST. APT. 37-B A S
DURHAM 27705 919 286-3311

OSER, ARTUS MONROE, JR. NEP /IM 011
10 MCDOWELL STREET A AC
ASHEVILLE 28801 704 258-8545

OSER, WADE HAUSER, JR. DR 092
CAPITAL RADIOLOGY ASSOC. A AC
P. O. BOX 17947
RALEIGH 27619 919 847-8564

OSKOWITZ, MARK SANDERS GS /VS 036
2555 PEMBROKE ROAD AC
GASTONIA 28054 704 864-8377

OSS, GEORGE OREN GP /PH 081
ROUTE #1, BOX 397JJ A L/RT
BOSTIC 28018 704 245-2853

OSS, PAUL N. GP 014
541 MAIN ST. A AC
HUDSON 28638 704 728-3551

OSTELLAR, HENRY CURTIS, III GS 034
2229 PARKWAY DR. A R
WINSTON-SALEM 27103 919 723-7177

OTAPARTHY, VENKATASOMAIAH C. GE 096
2419-C E. ASH ST. AC
GOLDSBORO 27530 919 731-2526

OUNTJOY, JOHN ROBERT OTO 034
1420 PLAZA DRIVE A AC
WINSTON-SALEM 27103 919 765-4922

MOVAHED, ASSAD CD 074
SECTION OF CARDIOLOGY A AC
ECU SCHOOL OF MEDICINE
GREENVILLE 27858 919 551-4651

MOYLAN, JOSEPH ANTHONY GS /TRS 032
BOX 3947, DUMC A AC
DURHAM 27710 919 684-2237

MOZINGO, GEORGE WM.,III U 078
101 W. 27TH ST. A AC
LUMBERTON 28358 919 738-7166

MUENCH, LAURENCE WALTER AN 023
310 DOWNING DR. A AC
KINGS MOUNTAIN 28086 704 739-3601

MUKAMAL, RONALD SASSON GS /ORS 024
333 JEFFERSON STREET A AC
WHITEVILLE 28472 919 642-2336

MULHOLLAND, JAMES VINCENT PD /PD 010
PO BOX 1208 AC
SHALLOTTE 28459 919 754-8117

MULLEN, DONALD COLLINS CDS /TS 000
ST.LUKES HEALTH SCI.OFF.#310 A AC
2901 W. KINNICKINNIC RIVER PKY
MILWAUKEE, WI 53215 414 649-3990

MULLIS, DONALD LEE ORS 011
111 VICTORIA ROAD A AC
ASHEVILLE 28801 704 252-7331

MULLIS, WILLIAM FRANK PS /GS 060
2215 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 372-6846

MULVANEY, GERALD GARFIELD OBG 092
11613 APPALOOSA RUN, WEST A AC
RALEIGH 27612 919 755-8535

MULY, EMIL C., III 032
886 LOUISE CIRCLE, APT. 26-B A S
DURHAM 27705 919 383-0529

MUMFORD, LARRY NPM /PD 032
3115 ACADEMY ROAD A AC
DURHAM 27707 919 489-1976

MUNDAY, TONA LEIGH 032
D-6 GRAHAM CONDOS. A S
MC CAULEY ST.
CHAPEL HILL 27514 919 929-0577

MUNDORF, GEORGE P 060
6001 HEMBY ROAD AC
MATTHEWS 28105 704 846-1276

MUNDY, DONALD ASHFORD AN 001
212 MEADOWOOD DRIVE A AC
BURLINGTON 27215 919 584-5352

MUNROE, JOHN FRANCIS IM /END 024
BALDWIN WOODS, S.W. A AC
P. O. BOX 1249
WHITEVILLE 28472 919 642-2230

MUNSEY, FRANKLIN ALBERT PD 063
424 LOVE 15 DRIVE AC
PINEHURST 28374 919 295-5659

MUNT, ROBERT LAWRENCE, JR. PD 092
4505 FAIR MEADOWS LN. #101 AC
RALEIGH 27607 919 787-5495

MURAD, JOSEPH LOUIS OBG 074
1730 W. FIFTH STREET, EXT. AC
GREENVILLE 27834 919 758-4855

MURINSON, DONALD S. ON /HEM 041
1511 WESTOVER TERRACE AC
GREENSBORO 27408 919 373-0611

MURPHY, BARBARA ANN 034
1759 HAWTHORNE ROAD A * S
WINSTON-SALEM 27103 919 765-5938

MURPHY, DANIEL F. ORS 041
530 N. ELAM AVE. A AC
PO BOX 29523
GREENSBORO 27403 919 292-8824

MURPHY, MICHAEL D. 034
1819 GRACE ST. A S
WINSTON-SALEM 27103 919 724-5686

MURPHY, ROBERT JENNINGS, JR. FP /PD 032
RT. 4, BOX 197 A L
ORANGE HIGH ROAD
HILLSBOROUGH 27278 919 732-9314

MURPHY, THOMAS LYNCH GE /GE 080
409 MOCKSVILLE AVE. A L/RT
SALISBURY 28144 704 633-2732

MURPHY, THOMAS LYNCH, JR. IM /PUD 036
1021 X-RAY DR. A AC
GASTONIA 28054 704 867-2341

MURPHY, WENDY ELAINE 034
1539 1/2 HAWTHORNE RD. A S
WINSTON-SALEM 27103 919 765-1935

MURRAY, JANE H. FP 032
907 DEMERIUS ST. R
DURHAM 27701 919 471-2571

MURRAY, JOHN CARROLL DMP 032
BOX 2907, DUMC * AC
DURHAM 27710 919 684-3432

MURRAY, JOHN P. OTO 084
PO BOX 819 A AC
ALBEMARLE 28001 704 983-6950

MURRAY, MICHAEL J. TR 032
910 CONSTITUTION DR. APT. 720 R
DURHAM 27705 919 684-3742

MURRAY, NIAL PATRICK AN 034
780 YORKSHIRE ROAD A AC
WINSTON-SALEM 27106 919 760-5259

MURRAY, WILLIAM GRAY IM 041
1808 CARLISLE ROAD A L/RT
GREENSBORO 27408 919 274-5155

MURRAY, WILLIAM JAMES AN 032
BOX 3094, DUMC A AC
DURHAM 27710 919 684-2569

MUSS, HYMAN BERNARD ON /HEM 034
BOWMAN GRAY, DEPT. OF MED. A AC
WINSTON-SALEM 27103 919 748-4397

MUSSELWHITE, NEILL HECTOR,III FP 065
1602 DOCTOR'S CIRCLE A * AC
WILMINGTON 28401 919 763-1896

MUTHER, ELLIS FRANK N/P 067
721 PROFESSIONAL DR. A AC
NEW BERN 28560 919 633-3744

MYERS, CARY JOHN FP 067
PO BOX 5025 AC
JACKSONVILLE 28540 919 353-2300

MYERS, DAN ALLEN U 054
KINSTON CLINIC, NORTH A P AC
DOCTORS DRIVE
KINSTON 28501 919 527-3043

MYERS, JOSEPH S. GS 025
157 MALLARD LANE A AC
DAYTONA BEACH, FL 32019

MYERS, RICHARD STANTON GS /TS 092
2800 BLUE RIDGE BOULEVARD A AC
RALEIGH 27607 919 781-7414

MYERS, RICHARD THOMAS GS /TS 034
300 S. HAWTHORNE RD. AC
WINSTON-SALEM 27103 919 748-4541

MYRACLE, JOHN HOBART PD /PDC 034
250 CHARLOIS BOULEVARD A AC
WINSTON-SALEM 27103 919 768-4730

MYRICK, WILLIAM GLENN IM 034
FORSYTH MEDICAL PK, STE. 714 AC
WINSTON-SALEM 27103 919 765-3088

NADEL, SCOTT MARTIN IM /PUD 041
721 GREEN VALLEY RD. AC
GREENSBORO 27408 919 378-0774

NADERI, MOHAMAD SIRUS AN 060
2001 VAIL AVE. A AC
MERCY HOSPITAL
CHARLOTTE 28207 704 375-4001

NAGA, AHMED HADY DR 031
P. O. BOX 708 P AC
KENANSVILLE 28349 919 296-0701

NAGEL, DONALD CHARLES PYM /FP 011
ALCOHOL REHAB CTR A AC
P.O. BOX 1441
BLACK MOUNTAIN 28711 704 253-6364

NAGY, BRIAN R. P 060
501 BILLINGSLEY RD. A AC
CHARLOTTE 28211 704 375-3575

NAHSER, PHILIP JOSEPH, JR. 032
214-C BRANSON ST. A S
CHAPEL HILL 27514

NAIK, SOMNATH IM /PUD 078
4209 ALDWYCH ST. A AC
LUMBERTON 28358 919 738-1141

NAILLING, RICHARD CABOT GS /GYN 011
5 DOCTOR'S PARK L
ASHEVILLE 28801 704 254-6381

NAKAMOTO, RONA KEIKO AN 053
722 HIGHLAND DR. A AC
SANFORD 27330 919 774-2100

NAMAN, CARL HAWKINS GS /CDS 023
1200 HARDIN DRIVE A P AC
SHELBY 28150 704 482-6359

NANCE, CHARLES LEE, JR. ORS 065
2001 S. 17TH STREET A * AC
WILMINGTON 28401 919 763-7344

NANCE, FREDERICK LEE, JR. GP 013
314 PROFESSIONAL BUILDING A AC
KANNAPOLIS 28081 704 932-0211

NANCE, JOHN WESLEY FP 082
403 FAIRVIEW STREET A AC
CLINTON 28328 919 592-6011

NANDA, SUMIT OPH 032
BOX 2872, DUMC A S
DURHAM 27710 919 684-5142

NANZETTA, LEONARD AN 034
2756 WINDSOR ROAD A L/RT
WINSTON-SALEM 27104 919 768-7572

NAPOLITANO, CHARLES A. 034
107 ECHO GLEN DR. APT. B4 A S
WINSTON-SALEM 27106 919 722-7787

NAPPER, CLAY HUGHES IM 034
301 MILLER ST., STE. 209 A AC
WINSTON-SALEM 27103 919 723-0789

NASH, CARL WILLIAM R 079
608 LINDEN DRIVE A AC
EDEN 27288 919 623-9711

NASH, HOKE SMITH, JR. OTO 060
1600 E. THIRD STREET A AC
CHARLOTTE 28204 704 372-3300

NASH, WILL LIGHT FP 050
34 FISHER CREEK ROAD A AC
SYLVA 28779 704 586-4012

NASHICK, GEORGE HENRY GP 025
PO BOX 729 A AC
BAYBORO 28515 919 633-1616

NASHOLD,JAMES REUBEN BLACKBURN 074
210 N. EASTERN ST. A S
GREENVILLE 27834 919 758-1793

NASTALA, CHET LAWRENCE 032
BOX 2779, DUMC A S
DURHAM 27710

NATHAN, HENRY PAUL IG /IM 044
102 HOSPITAL DRIVE AC
CLYDE 28721 704 452-0331

NATHAN, LAUREN 032
548 FINLEY ST. A S
DURHAM 27705 919 383-4227

NATION, ROY GLEN GP /IM 096
407 N. HERMAN STREET AC
GOLDSBORO 27530 919 735-6261

NAUMOFF, PHILIP FP 060
1012 KINGS DRIVE A * L
CHARLOTTE 28283 704 334-4665

NAVE, LESTER DAVID, JR. FP 033
111 FAIRVIEW ROAD AC
ROCKY MOUNT 27801 919 446-3333

NAYLOR, LEE ANN ALLEN DR 034
3681 SQUIREWOOD DR. R
CLEMMONS 27012 919 922-3244

NEAL, CHARLES BODINE, III PD 032
2919 COLONY ROAD A AC
DURHAM 27705 919 489-9158

NEAL, DEMAR AUSTIN, III GS /CDS 049
708 HARTNESS ROAD A P * AC
STATESVILLE 28677 704 873-1024

NEAL, RUTHERFORD DOUGLAS GS /GYN 060
2214 THETFORD CT. A L/RT
CHARLOTTE 28211 704 365-6541

NEAL, WILLIAM RONALD OBG 041
1507 WESTOVER TERR. AC
GREENSBORO 27408 919 273-3661

NEALE, RICHARD CARROLL, JR. PTH /CLP 012
P. O. BOX 249 A AC
RUTHERFORD COLLEGE 28671 704 879-8767

NEALE, WIRT THOMAS PD 060
149 PROVIDENCE ROAD AC
CHARLOTTE 28207 704 377-5571

NEAVE, VICTORIA C.D. NS 040
606 N. ELM ST. A AC
HIGH POINT 27262 919 889-8877

NEBEL, WILLIAM ARTHUR OBG 032
CONNER DR. PROF. BLDG. AC
CHAPEL HILL 27514 919 942-8571

NEBLETT, DONALD THOMAS P/PD 011
16 ALL SOULS CRESCENT A AC
ASHEVILLE 28803 704 274-1415

NEELAND, EUGENE CRAWFORD FP 098
606 FAIRVIEW AVENUE A L/RT
WILSON 27893 919 243-5530

NEELEY, BRUCE CARLTON P/PYM 032
1911 HILLANDALE RD. STE. 1040 A AC
DURHAM 27705 919 383-1516

NEELON, FRANCIS ALBERT IM /END 032
BOX 3021, DUMC A * AC
DURHAM 27710 919 684-4307

NEIJSTROM, ERIC SHERWOOD ON /IM 041
1007 PROFESSIONAL VILLAGE A AC
GREENSBORO 27401 919 272-2141

NEISH, DONALD DEWITT IM /GER 032
2609 N. DUKE STREET AC
DURHAM 27704 919 471-8446

NELIUS, SIGRID J. VONRENNER IM /GPM 032
WEST DURHAM STATION A AC
BOX 2899
DURHAM 27705 919 383-6289

NELSON, DAVID STEPHEN EM /GS 034
248 FLINTSHIRE ROAD A AC
WINSTON-SALEM 27104 919 765-3950

NELSON, LEWIS HENRY, III OBG /GYN 034
BOWMAN GRAY, DEPT. OF OBG AC
WINSTON-SALEM 27103 919 748-4291

NELSON, PHILIP GROESBECK P 074
MEDICAL PAVILION, SUITE #9 A L
GREENVILLE 27834 919 758-3145

NELSON, ROBERT BARRY ORS 092
P. O. BOX 10707 A AC
RALEIGH 27605 919 781-5600

NEMEROFF, CHARLES BARNET P 032
BOX 3859, DUMC A AC
DURHAM 27710 919 684-6562

NERNESS, JOHN LAVON OBG 045
513 N. JUSTICE ST. AC
HENDERSONVILLE 28739 704 693-0736

NERNEY, JOHN JOSEPH OPH 044
116 HOSPITAL DRIVE AC
CLYDE 28721 704 452-5816

NESBIT, FREDERICK P 060
1900 RANDOLPH ROAD, STE. 900 AC
CHARLOTTE 28207 704 333-7722

NESBIT, WILLIAM MICHAEL N 060
DOCTORS BLDG. SUITE 223 A AC
1012 S. KINGS DR.
CHARLOTTE 28283 704 333-2853

NESI, MARC HENRY U 041
1100 OLIVE ST. A AC
GREENSBORO 27401 919 373-0871

NEVILLE, CECIL HOWELL, JR. ORS 063
PINEHURST ORS CLINIC A * AC
P. O. BOX 1650
PINEHURST 28374 919 295-1392

NEWBORG, BARBARA IM 032
BOX 3385, DUMC A AC
DURHAM 27710 919 684-3418

NEWELL, ERNEST T. OM /FP 060
DUKE POWER A P AC
MCGUIRE STA. PO BOX 448
CORNELIUS 28031 704 588-1265

NEWELL, JOSEPHINE E. FP 098
RALEIGH TOWNE, APT. #47 A * AC
525 WADE AVENUE
RALEIGH 27605 919 733-7611

NEWELL, LANNING RICHARD GE /IM 092
3320 EXECUTIVE DR., STE. 119 A AC
RALEIGH 27609 919 878-9465

NEWELL, MCARTHUR OBG 041
1710 E. BESSEMER AVE. A AC
PO BOX 21503
GREENSBORO 27420 919 274-1558

NEWELL, ROBERT BARTHOLOMEW GS /EM 040
EMERALD ISLE, RT. 1, BOX 949-E A L/RT
MOREHEAD CITY 28557 919 354-3152

NEWLAND, CHARLES LOGAN FP 088
104 WOODSIDE DR. A L/RT
BREVARD 28712 704 883-2156

NEWMAN, DAVID HAROLD GS 041
200 E. NORTHWOOD ST., STE.304 A AC
GREENSBORO 27401 919 378-9811

NEWMAN, EDWIN R 060
3535 RANDOLPH RD. A AC
CHARLOTTE 28211 704 364-0568

NEWMAN, HAROLD HASTINGS, JR. GP /OM 080
516 MOCKSVILLE AVENUE A AC
SALISBURY 28144 704 633-7070

NEWMAN, ROBERT HENRY DR 014
PO BOX 659 A AC
LENOIR 28645 704 754-2283

NEWMAN, WALTER JOSEPH NEP 074
6 DOCTOR'S PARK A AC
GREENVILLE 27834 919 752-8880

NEWMAN, WILLIAM HAROLD GS /TS 02(
3427 MELROSE ROAD A AC
FAYETTEVILLE 28304 919 484-410(

NEWMAN, WILLIAM NEAL CD /IM 09
WAKE HEART ASSOCIATES AC
PO BOX 14427
RALEIGH 27620 919 832-925

NEWSOME, ALBERT RAY CD 03
1405 PLAZA DRIVE A AC
WINSTON-SALEM 27103 919 765-413

NEWSOME, JAMES FREDERICK GS /ON 03
UNC, BURNETT-WOMACK, 229-H A AC
CHAPEL HILL 27514 919 966-522

NEWSOME, SAMUEL CARL FP 03
P. O. BOX 1129 A AC
KING 27021 919 983-434

NEWTON, DALE ALAN IM /PD 03
101 CLINIC DRIVE A AC
TARBORO 27886 919 823-210

NEWTON, DOUGLAS FRISBIE GE /IM 07
1705 W. SIXTH STREET AC
GREENVILLE 27834 919 752-610

NEWTON, GRAHAM DOUGALD D 06
1600 E. FIFTH STREET A AC
CHARLOTTE 28204 704 376-152

NEWTON, JIMMIE ISAAC OBG 03
3030 TRENWEST DRIVE A AC
WINSTON-SALEM 27103 919 768-431

NEWTON, JOHN THOMAS FP 08
403 FAIRVIEW ST. AC
CLINTON 28328 919 592-601

NG, GODOFREDO TAN GS /TS 09
1101 DRESSER COURT AC
RALEIGH 27609 919 876-201

NG, KHYE WENG N/IM 03
1830 HILLANDALE ROAD A AC
DURHAM 27705 919 383-553

NG, VICTOR WANG TA FP 00
PO BOX 999 AC
ROBERSONVILLE 27871 919 795-301

NIAZI-SAI, ABDOLHAKIM IM /HEM 00
208 HALL STREET A AC
WADESBORO 28170 704 694-515

NICASTRO, JOSEPH FRANCIS ORS 03
4159 GREENMEAD ROAD A AC
WINSTON-SALEM 27106 919 748-394

NICHOLS, GEORGE LOUIS P/CHP 03
1431 LAUREL LANE AC
GASTONIA 28054 704 867-441

NICHOLS, MARK LOVEL IM /EM 09
2425 COLEY FOREST PLACE AC
RALEIGH 27612 919 755-858

NICHOLS, SUSAN BETH OBG 01
1054 BURRAGE ROAD, NE A AC
CONCORD 28025 704 788-415

NICHOLSON, CHARLES H. AN 09
PO BOX 18139 A AC
RALEIGH 27619 919 781-742

NICHOLSON, JAMES EVANS, III FP 00
304 MCCASKEY ROAD A AC
WILLIAMSTON 27892 919 792-819

NICHOLSON, JOHN HARVEY, II IM 04
760-G HARTNESS ROAD A AC
STATESVILLE 28677 704 873-836

NICHOLSON, THOMAS WESTRAY CD /IM 00
615 E. 12TH STREET AC
WASHINGTON 27889 919 946-210

NICKENS, LARRY COBB PD 09
2706 MEDICAL OFFICE PLACE AC
GOLDSBORO 27530 919 734-473

NICKS, DENNIS BART PS /HS 06
2305 CANTERWOOD AC
WILMINGTON 28401 919 343-011

NICOLA, ANDRAOS NICOLA P 00
1946 MARTIN ST. A AC
BURLINGTON 27215 919 228-058

NIELAND, ROBERT BRUCE FP 01
24 SECOND AVENUE, N. E. A * AC
HICKORY 28601 704 328-223

NIEMEYER, CHARLES JOHN ORS 03
902 COX ROAD, SUITE A A * AC
GASTONIA 28054 704 865-648

NIESS, GARY STEWART CD 06
1350 S. KINGS DR. P AC
CHARLOTTE 28207 704 372-875

IETERS, GERALD FRANCIS DR 049
P. O. BOX 688 AC
MOORESVILLE 28115 704 663-3479

IFONG, FRANK MILLER FP 034
P. O. BOX 988 L
CLEMMONS 27012 919 766-6811

IFONG, LESLIE WILEY 074
310 HIDDEN BRANCHES CLOSE A S
WINTERVILLE 28590 919 355-7477

ISBETT, DONALD ALWIN FP 083
616 ATKINSON ST. AC
LAURINBURG 28352 919 277-0971

IXON, WILLIAM PRESTON, JR. NEP /IM 065
1302 MEDICAL CENTER DRIVE A AC
WILMINGTON 28401 919 763-3651

OAH, HUGH BRYAN ORS /HS 040
624 QUAKER LANE, SUITE D-200 AC
HIGH POINT 27262 919 841-6262

OAH, VAN BATCHELOR OPH 092
3900 OLD WAKE FOREST RD. A * AC
SUITE 104
RALEIGH 27609 919 872-3242

OECKER, ROBERT J. 032
PO BOX 884 A * S
CHAPEL HILL 27514 919 781-0707

IOEL, RICHARD DAVID GS 039
1026 COLLEGE STREET A AC
OXFORD 27565 919 693-7066

IOEL, ROBERT F., JR. 032
RT. #11, BOX 94 A S
CHAPEL HILL 27514 919 968-6454

IOELL, JOHN STANFORD FP 011
OLD HIGHWAY 70 AC
P. O. BOX 1441
BLACK MOUNTAIN 28711 704 669-3425

IOLAN, CLYDE, JR. D 041
1100 OLIVE STREET A * AC
GREENSBORO 27401 919 379-1193

IOLAN, ROBERT EARL GS /VS 034
1901 S. HAWTHORNE, STE. 210 A AC
WINSTON-SALEM 27103 919 765-5101

IOMEIR, ABDEL-MOHSEN CD /IM 034
3219 PENSBY ROAD A AC
WINSTON-SALEM 27106 919 748-4581

IORBURN, CHARLES S. GS 011
P. O. BOX 5216 A L
BILTMORE 28803 704 272-6204

IORBURN, RUSSELL LEE EM 011
1617 HENDERSONVILLE RD. A L
ASHEVILLE 28803 704 274-3557

IORCROSS, FREDERICK CLEVELAND PD 036
1839 E. GARRISON BOULEVARD AC
GASTONIA 28052 704 864-2685

IORDAN, JOHN MCLEAN U 013
102 LAKE CONCORD ROAD, N.E. A AC
CONCORD 28025 704 786-5131

IORDSTROM, CARL ROBERT FP 095
10 DOCTOR'S DR. AC
BOONE 28607 704 264-3881

IORFLEET, CHARLES MILLNER, JR. U 034
1244 ARBOR ROAD, #199 A L/RT
WINSTON-SALEM 27104 919 722-1464

IORINS, MICHAEL ELLIOTT 032
122 WINDSOR PLACE A R
CHAPEL HILL 27514 919 933-0367

IORMAN, ANDY MURRAY OBG 095
20 DOCTOR'S PARK AC
BOONE 28607 704 264-1232

IORRIS, CHARLES BRADLEY IM 060
1310 SCOTT AVENUE L
CHARLOTTE 28204 704 334-0450

IORRIS, H. THOMAS PTH 074
PITT COUNTY MEM. HOSPITAL A AC
GREENVILLE 27834 919 551-4951

IORTON, EVE GWENDOLYN EM 060
701 REGENCY DR. AC
CHARLOTTE 28211 704 364-1038

IOTO, JOSEPH ANTHONY TS /GS 011
520 BILTMORE AVENUE A AC
ASHEVILLE 28801 704 252-7357

IOVEK, STEVEN JAI 032
A-11 UNIVERSITY GARDENS APTS. A S
CHAPEL HILL 27514 919 929-8823

IOWLAN, FAGG BERNARD FP 041
4308 KIMMRIDGE ROAD A RT
GREENSBORO 27406 919 674-5100

NOWLIN, GEORGE PRESTON U 060
1868 MARYLAND AVENUE A L/RT
CHARLOTTE 28209 704 334-0302

NUGENT, RICHARD RECHER GPM /OBG 032
DIV. OF HEALTH SERVICES AC
P. O. BOX 2091
RALEIGH 27602 919 733-3816

NUNLEY, JAMES ALBERT, II ORS /HS 032
BOX 2919, DUMC A * AC
DURHAM 27710 919 684-4033

NUNNALLY, JAMES THOMAS, III CHP /P 092
2000 YORKGATE DRIVE A AC
RALEIGH 27612 919 781-1160

NUTT, JAMES EDWARD CD /IM 092
3400 EXECUTIVE DR., STE. 201 A P AC
RALEIGH 27609 919 872-8920

NUTT, SUZANNE HAMILTON 074
717 SNOW HILL ST. A S
AYDEN 28513 919 746-4695

NYE, MARY JANE LOVE PD /ADL 032
1919 WILSHIRE DRIVE AC
DURHAM 27707 919 489-9534

NYE, SYLVANUS WILLIAM PTH /CLP 054
700 ROUNDTREE STREET A AC
KINSTON 28501 919 522-7141

O'BAR, PAUL RUPERT IM /ID 060
1350 S. KINGS DRIVE A AC
CHARLOTTE 28207 704 372-8750

O'BRIEN, THOMAS FRANCIS, JR. GE /IM 074
ECU SCHOOL OF MEDICINE * AC
GREENVILLE 27834 919 551-4652

O'CAIN, CHARLES FRANK PUD /IM 011
30 CHOCTAW STREET A AC
ASHEVILLE 28801 704 255-7733

O'CONNOR, MICHAEL LEE PTH 034
BOWMAN GRAY, DEPT. OF PATH. AC
WINSTON-SALEM 27103 919 748-4311

O'CONNOR, ROBERT DARRELL OTO 018
FAIRGROVE CHURCH ROAD A P AC
P. O. DRAWER 2484
HICKORY 28601 704 322-3725

O'DONNELL, ROBERT WILLIAM P 025
2407 GRACE AVE. A AC
PO BOX 2587
NEW BERN 28560 919 633-4171

O'NEAL, EVA MANN 074
1924 WHITE HOLLOW DR. A S
GREENVILLE 27858 919 756-9049

O'NEAL, RUTH PD 034
BOWMAN GRAY, DEPT. OF PED. A * L
WINSTON-SALEM 27103 919 727-8105

O'NEIL, H. WILLIAM OBG 067
200 MEMORIAL DR. A AC
JACKSONVILLE 28540 919 353-2115

O'NEILL, MICHAEL RAYMOND U 060
1900 RANDOLPH RD., STE. 816 A AC
CHARLOTTE 28207 704 334-3033

O'QUINN, EDWARD NELSON OBG 065
1612 DOCTOR'S CIRCLE DRIVE L/RT
WILMINGTON 28401 919 763-9015

O'ROARK, HENRY CLYDE OBG 060
2711 RANDOLPH RD. STE. 309 AC
CHARLOTTE 28207 704 377-3396

OAK, CHANG YOON IM 007
HIGHWAY 64 EAST A AC
PO BOX 987
PLYMOUTH 27962 919 793-9051

OAKES, WALTER JERRY NS 032
BOX 3272, DUMC A AC
DURHAM 27710 919 684-5013

OAKLEY, STANLEY PRESTON, JR. P 074
3025 VENTOSA DR. A R
CHARLOTTE 28205 704 537-3643

OAKLEY, WARD SAYRE, JR. ORS 063
P. O. BOX 1650 A AC
PINEHURST 28374 919 295-4200

OATES, LARRY ALLEN IM 092
2900 HIGHWOODS BLVD. AC
RALEIGH 27604 919 878-9870

OBER, KARL PATRICK END /IM 034
300 S. HAWTHORNE RD. AC
WINSTON-SALEM 27103 919 748-2076

OBERLIN, DELOY CHARLES AN /EM 018
ROUTE #3, BOX 690 A P AC
NEWTON 28658 704 322-6070

ODERE, FRED GORDON PTH 032
DURHAM CO. HOSP-PTH P AC
DURHAM 27704 919 470-5243

ODOM, GUY LEARY NS 032
2812 CHELSEA CIRCLE A L/RT
DURHAM 27707 919 489-2206

OELRICH, AUGUST M. GS 053
P. O. BOX 1169 A L
SANFORD 27330 919 775-7146

OGBURN, LUNDIE CALVIN GYN 034
312 FORSYTH MEDICAL PARK A P L
WINSTON-SALEM 27103 919 765-9150

OGBURN, PAUL LANIER GS /TRS 049
STATESVILLE MEDICAL GROUP AC
PO BOX 1460
STATESVILLE 28677 704 878-2011

OGDEN, ROBERT HARVEY OBG 036
902 COX RD., STE. F A AC
GASTONIA 28054 704 867-6386

OLATIDOYE, BABATLINDE A. 032
PO BOX 187 A S
CHAPEL HILL 27514 919 933-6346

OLDER, ROBERT ALAN DR 032
3104 DEVON RD. A P AC
DURHAM 27707 919 383-6984

OLDHAM, H. NEWLAND, JR. CDS /GS 032
DUKE UNIV. MED. CTR. A AC
DURHAM 27710 919 684-3243

OLEEN, GEORGE GERHARD FP /IM 090
103 S. HAYNE STREET A * L
MONROE 28110 704 283-6622

OLESON, JAMES ROBERT TR /ON 032
BOX 3085, DUMC A AC
DURHAM 27710 919 684-3742

OLIN, DAVID BAKER NEP /IM 041
208 W. WENDOVER AVENUE AC
GREENSBORO 27401 919 379-9708

OLINGER, BENJAMIN RAY OTO 011
131 MCDOWELL STREET A AC
ASHEVILLE 28801 704 254-3517

OLIVER, ANDREW BLAINE, JR. OBG 060
UNIV. MED. OFFICE BLDG., STE. A323 AC
101 W. T. HARRIS BLDG.
CHARLOTTE 28211 704 372-8020

OLIVER, DAVID CLARK CD /IM 025
702 NEWMAN RD. AC
MCCARTHY SQUARE
NEW BERN 28560 919 633-5333

OLIVER, FRANCIS THEODORE AN /PH 014
217 MT. CIRCLE DR. AC
LENOIR 28645 704 754-8421

OLIVER, FREDERICK CARLTON, JR. IM 092
103 BAINES COURT * AC
CARY 27511 919 467-6125

OLIVER, GEORGE MOTLEY, JR. OBG 016
6 MEDICAL PARK AC
MOREHEAD CITY 28557 919 726-8016

OLIVER, JOHN GLADSON OPH 097
408 EIGHTH STREET A AC
NORTH WILKESBORO 28659 919 838-5121

OLIVER, JOSEPH ANDREW FP 080
P. O. BOX 458 A L
ROCKWELL 28138 704 279-7227

OLIVER, KENNETH LEON OBG 060
1900 RANDOLPH ROAD AC
CHARLOTTE 28207 704 377-5675

OLIVER, WILLIAM RUSSELL PTH 032
114-B FIDELITY STREET A R
CARRBORO 27510 919 929-7120

OLKOWSKI, STEVEN THOMAS OPH 034
1160 EDENWOOD DRIVE A R
WINSTON-SALEM 27103 919 760-2157

OLSEN, ELISE ARLINE D/IM 032
BOX 3294, DUMC AC
DURHAM 27710 919 684-6844

OLSEN, JEFFREY DOVE 034
2451 BOONE AVE. A S
WINSTON-SALEM 27103 919 725-9812

OLSEN, KENNETH GEORGE AN 067
137 COKE PLACE AC
JACKSONVILLE 28540 919 455-0188

OLSON, BEVERLY IM /EM 041
1919-A BOULEVARD ST. AC
GREENSBORO 27407 919 854-8900

OLSON, DAVID GEORGE IM 060
7108 PINEVILLE-MATTHEWS RD. AC
NALLE CLINIC
CHARLOTTE 28226 704 542-1952

OLSON, PAUL RICHARD FP 011
ROUTE #3, BOX 112 A * AC
LEICESTER 28748 704 258-0635

OLSON, ROBERT MORTIMER OPH 051
ROUTE #1, BOX 229-R A L/RT
KENLY 27542 919 284-2526

OLYMPIO, GEORGIA K. PTH 034
526 OSBORNE RD. A R
WINSTON-SALEM 27103 919 768-5217

OLYMPIO, MICHAEL A. AN 034
526 OSBORNE RD. AC
WINSTON-SALEM 27103 919 768-5217

OMAN, TIMOTHY ROY FP 032
BOX 2914 DUMC R
DURHAM 27710 919 286-9896

OMER, SYED N/IM 012
BROUGHTON HOSPITAL A AC
MORGANTON 28655 704 433-2284

ONTJES, DAVID AINSWORTH END /IM 032
UNC SCHOOL OF MEDICINE AC
CHAPEL HILL 27514 919 966-4468

ORBOCK, JACOB ALEXANDER IM /CD 034
250 CHARLOIS BOULEVARD A AC
WINSTON-SALEM 27103 919 768-4730

ORCUTT, JAMES MICHAEL 034
1327 REVERE RD. A S
WINSTON-SALEM 27103 919 725-8866

ORGAIN, EDWARD STEWART CD /IM 032
3321 DEVON ROAD A L/RT
DURHAM 27707 919 489-2111

ORLANDO, ROY CHARLES GE /IM 032
324 CLINICAL SCIENCES BLDG. AC
UNC DEPT. OF MEDICINE 229-H
CHAPEL HILL 27514 919 966-2511

ORLOWSKI, RICHARD ON /HEM 018
225 18TH ST. SE AC
P. O. BOX 3710
HICKORY 28603 704 324-9550

ORMAND, JOHN WILLIAM, JR. OBG 065
1809 GLEN MEADE ROAD A AC
WILMINGTON 28401 919 763-1505

ORMAND, THOMAN LANE OBG 090
1408 E. FRANKLIN ST. A AC
MONROE 28110 704 289-2553

ORNITZ, ROBERT DAVID ON /TR 092
4420 LAKE BOONE TRAIL A AC
RALEIGH 27607 919 755-3018

ORR, LYNN HUIE, JR. CD /IM 074
ECU DEPT. OF MEDICINE AC
GREENVILLE 27834 919 551-4651

ORR, SAMUEL LAWRENCE PTH 060
CHARLOTTE MEMORIAL HOSPITAL AC
P. O. BOX 32861
CHARLOTTE 28232 704 338-2251

ORRINGER, EUGENE PAUL HEM /IM 032
UNC,DIV.OF HEM,DEPT. OF MED. AC
340 MACNIDER BLDG. 202-H
CHAPEL HILL 27514 919 966-2467

ORRISON, WILLIAM GRESHAM OPH 012
335 E. PARKER ROAD AC
MORGANTON 28655 704 433-6220

OSBORNE, JAMES C. IM 041
3017 ROBIN HOOD DR. AC
GREENSBORO 27408 919 274-3241

OSCHWALD, DONALD L.A., JR. PS 092
1112 DRESSER COURT A AC
RALEIGH 27609 919 892-2616

OSTERHOUT, SHIRLEY K. PD 032
BOX 3007, DUMC P AC
DURHAM 27710 919 684-2498

OSTMAN, DAVID LEE OBG 074
DOCTOR'S PK., BLDG 5 A AC
GREENVILLE 27834 919 758-5246

OSTROW, BARRY SEYMOUR P 092
3049 ESSEX CIR. BLDG. A AC
RALEIGH 27608 919 782-1366

OSTROWSKI, EDWARD S. DR 001
831 WARWICK COURT AC
BURLINGTON 27215 919 227-1147

OTT, DAVID JAMES DR 034
4761 GREY FOX COURT A AC
WINSTON-SALEM 27104 919 765-7633

OTTENI, GERALD VINCENT DR 013
123 OVERBROOK DRIVE A AC
CONCORD 28025 704 786-2111

OUTLAND, ROBERT BOONE GP 066
P. O. BOX 410 A L/RT
RICH SQUARE 27869 919 539-2755

OVERBY, JOSEPH RANDAL, JR. FP 025
810 KENNEDY AVE. A AC
P. O. BOX 5409
NEW BERN 28560 919 633-1678

OVERCASH, HAROLD PAYNE PD 092
3616 ALAMANCE DR. AC
RALEIGH 27609 919 787-0266

OVERCASH, WILLIAM TODD 032
P.O. BOX 1694 A S
ALBEMARLE 28002

OVERTON, DOLPHIN HENRY,JR. OBG 064
132 FOY DRIVE AC
ROCKY MOUNT 27801 919 443-6622

OVERTON, MARK HOWARD IM /FP 042
STAR ROUTE, BOX 207A A AC
GASTON 27832 919 535-2966

OWEIDA, SAMI JOSEPH 060
1900 RANDOLPH RD. STE. 410 AC
CHARLOTTE 28207 704 334-4663

OWEN, CHARLES FLETCHER, JR. R 076
P. O. BOX 146 A L
ASHEBORO 27203 919 625-5151

OWEN, ROBERT HARRISON ABS /GP 044
127 1/2 MAIN STREET A L
CANTON 28716 704 648-2142

OWEN, WILLIAM BOYD GP 044
PO BOX 780 A P * AC
OWEN-SMITH CLINIC, PA
WAYNESVILLE 28786 704 456-8601

OWENS, BERNARD JAMES, III CDS /GS 041
1017 PROFESSIONAL VILLAGE A AC
GREENSBORO 27401 919 274-2933

OWENS, FRANCIS LEROY GP /ABS 063
510 N. W. BROAD STREET A L
SOUTHERN PINES 28387 919 692-6022

OWENS, FREDERICK THOMAS PUD /IM 018
912 SECOND STREET, N.E. AC
HICKORY 28601 704 322-8265

OWENS, ROBERT CARL IM 012
341 E. PARKER ROAD A AC
MORGANTON 28655 704 433-0225

OWENS, WILLIAM LAWRENCE IM 082
WOODSIDE PROF. BLDG. A P AC
CLINTON 28328 919 592-4605

OWENS, ZACK DOXEY GS /GYN 070
P. O. BOX 422 A L/RT
ELIZABETH CITY 27909 919 335-4492

OWL-SMITH, FRANCES 032
301 ROLLINGWOOD ROAD A * S
CHAPEL HILL 27514 919 933-5102

OWSLEY, JAMES HAROLD R/NM 018
P. O. BOX 308 A * AC
HICKORY 28601 704 322-2644

OXNER, CLAUDIA GERTRUDE AN 011
DOCTOR'S BLDG.,RM. #202 A P AC
ASHEVILLE 28801 704 254-1960

OZER, HOWARD ON 032
UNC 3019 OLD CLINIC BLDG. 226H AC
CHAPEL HILL 27514 919 966-4431

PAAR, JOHN ARTHUR CD /IM 092
1212 CEDARHURST DR. AC
RALEIGH 27609 919 872-4850

PACE, JOHN SANDERSON AN 065
825 INLET VIEW DRIVE A P * AC
WILMINGTON 28403 919 256-4008

PACKER, JOHN WESLEY ORS /HS 092
3515 GLENWOOD AVE. A * AC
PO BOX 10707
RALEIGH 27605 919 781-5600

PADDISON, GEORGE MARION R 032
3920 REGENT ROAD A P AC
DURHAM 27707 919 489-0272

PADEN, PAUL ALEXANDER TR 060
3125 BROOKRIDGE LANE A RT
CHARLOTTE 28211 704 366-7883

PADGETT, RICHARD CAMERON 032
411 MCCAULEY ST. A S
CHAPEL HILL 27514 919 942-5518

PAGANO, JOSEPH STEPHEN IM /ID 032
UNC,LINEBERGER CANCER RES. AC
CHAPEL HILL 27514 919 966-3036

PAGE, ERNEST BENJAMIN,JR. IM 09
2800 BLUE RIDGE BLVD.,STE. 503 A AC
RALEIGH 27607 919 782-750

PAGE, GEORGE DANTZLER GS 06
2128 QUEENS ROAD EAST A L/R
CHARLOTTE 28207 704 377-978

PAGTER, AMOS TOWNSEND, JR. IM 07
107 WILDERNESS ROAD A P AC
TRYON 28782 704 859-669

PALMER, JEFFRESS GARY IM /HEM 03
N. C. MEMORIAL HOSPITAL AC
CHAPEL HILL 27514 919 966-331

PALMER, ROBERT MARION FP 07
P. O. BOX 1159 A AC
TRYON 28782 704 894-330

PANCOTTO, FRANK SALVATORE GE 01
920 N. CHURCH ST. AC
CONCORD 28025 704 788-418

PANDARINATH, GUPTA GE /IM 04
DRAWER 158 A AC
ROANOKE RAPIDS 27870 919 537-013

PANOSH, WANDA KOTVAN PD /IM 04
ANNA GOVE HEALTH CENTER AC
UNC AT GREENSBORO
GREENSBORO 27412 919 379-534

PANTELAKOS, CONSTANTINE G. OTO 02
1653 OWEN DRIVE AC
FAYETTEVILLE 28304 919 484-510

PANZA, WILLIAM SEBASTIAN 03
1800 WILLIAMSBURG RD. APT. 8-E A
DURHAM 27707 919 489-410

PAOLINI, JOHN FRANK 03
BOX 2832, DUMC A
DURHAM 27710

PAPADOPOULOS, SPYRIDON G. 03
3700-205 CHIMNEY RIDGE PL. A
DURHAM 27713 919 493-071

PAPINEAU, ALBAN FP 00
PO BOX 686 A
PLYMOUTH 27962 919 793-415

PAPPAS, PAMELA ANNE P 07
DEPT. OF PSY. A AC
ECU SCH. OF MEDICINE
GREENVILLE 27858 919 551-240

PAPPAS, PETER GEORGE ID /IM 06
1302 MEDICAL CENTER DR. A AC
WILMINGTON 28401 919 763-365

PARADA, MALCOLM PERRY OBG 08
315 MOCKSVILLE AVENUE A AC
SALISBURY 28144 704 636-927

PARANKA, JULIA ANNE 03
3536 MAYFAIR ST. #102 A
DURHAM 27707 919 493-773

PARFITT, HENRY E., JR. U 02
1786 METROMEDICAL DR. AC
FAYETTEVILLE 28303 919 485-815

PARHAM, SUMNER MALONE GYN /OBS 09
973 MEADOW LANE A L/R
HENDERSON 27536 919 438-375

PARK, H. KIM PTH 07
ECU, DEPT. OF CLINICAL PATH. A * AC
GREENVILLE 27834 919 551-449

PARKE, CHARLES EDWARD 03
614 CASWELL RD. A
CHAPEL HILL 27514 919 942-663

PARKE, JAMES CLIFTON, JR. PD /NPM 06
P. O. BOX 32861 A AC
CHARLOTTE 28232 704 338-315

PARKER, CHARLES LAWRENCE OBG /GYN 02
801 MCCARTHY BLVD. A AC
NEW BERN 28560 919 633-394

PARKER, HERMAN RICHARD, JR. IM 04
408-B PARKWAY DRIVE A * AC
GREENSBORO 27401 919 275-980

PARKER, JAMES LEE PTH 01
850-H 8TH ST. NE A AC
HICKORY 28601 704 322-382

PARKER, JOHN CURTIS HEM /IM 03
N. C. MEMORIAL HOSPITAL AC
CHAPEL HILL 27514 919 966-246

PARKER, JOSEPH B., JR. P/PYM 03
BOX 3838, DUMC A AC
DURHAM 27710 919 684-241

PARKER, MICHAEL DEAN R 04
3404 WYNNEWOOD DRIVE A AC
GREENSBORO 27408 919 288-232

RKER, MICHAEL YOUNG OTO /HNS 092
3100 BLUE RIDGE RD., STE. 201 A P AC
RALEIGH 27612 919 787-1374

RKER, PAUL EDWIN AN 032
N. C. MEMORIAL HOSPITAL A R
CHAPEL HILL 27514 919 477-2475

RKER, PETER EMENS GS /VS 034
2933 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27103 919 765-0155

RKER, ROBERT L., JR. OBG 034
322 S. CHERRY ST. A AC
KERNERSVILLE 27284 919 993-4532

RKER, ROY TURNAGE OBG 032
BOX 3097, DUMC A AC
DURHAM 27710 919 684-2626

RKER, SAMUEL LESTER, JR. OBG 054
KINSTON CLINIC, NORTH A AC
KINSTON 28501 919 522-4333

RKER, TALBOT FORT, JR. OBG 096
2400 WAYNE MEM. DR. STE K A AC
GOLDSBORO 27530 919 734-3344

RKER, WILLIAM PAXTON, JR. NS 065
1303 CYPRESS GROVE DR. A AC
WILMINGTON 28401 919 762-1804

RKERSON, GEORGE ROBERT, JR. FP 032
BOX 2914, DUMC A AC
DURHAM 27710 919 286-9896

RKERSON, WALTER TUCK OPH 060
225 HAWTHORNE LANE A AC
CHARLOTTE 28204 704 377-3689

RKIN, CHARLES EVAN AN 049
737 ST. CLOUD P * AC
STATESVILLE 28677 704 873-5661

RKS, WILLIAM B., III 074
205-B LINDBETH DR. A S
GREENVILLE 27834 919 355-5744

RKS, WILLIAM CRAIG IM 040
624 QUAKER LANE, SUITE 207-A L
HIGH POINT 27262 919 841-4233

RLIER, REGGIE DAVID 032
828 HOLLY HEDGE DR. A S
LEWISVILLE 27023 919 479-5559

RNELL, JEROME PATRICK,II U 092
3901 COMPUTER DR. A AC
RALEIGH 27609 919 781-5104

RR, ROBERT ALEXANDER EM 065
NEW HANOVER HOSPITAL AC
DEPT. OF EMERGENCY MED.
WILMINGTON 28401 919 343-7000

RRIS, ALVA EDWARD FP /OM 034
2240 CLOVERDALE AVE., STE. 219 AC
WINSTON-SALEM 27103 919 725-5881

RROTT, FRANK STRONG GS 080
P. O. BOX 637 A L/RT
SALISBURY 28144

RROTT, WILLIAM THOMAS, JR. IM 054
905 N. QUEEN STREET L
KINSTON 28501 919 523-4269

RSLEY, BETSY ALLEN PD 034
3420 THORESBY COURT AC
WINSTON-SALEM 27104 919 768-6830

RSONS, JAMES SHERIDAN IM 092
704 W. JONES STREET A AC
RALEIGH 27603 919 832-5125

RSONS, LACY JACK OBS 078
2204 ROWLAND AVENUE A L/RT
LUMBERTON 28358 919 739-6431

RSONS, RICKEY 074
1612 OAKLAWN AVE. A S
GREENVILLE 27834 919 756-5478

RSONS, ROBERT GREGORY DR 060
3535 RANDOLPH RD. A AC
CHARLOTTE 28211 704 365-0343

RTRICK, CORNELIUS THEODORE IM /CD 007
615 E. 12TH STREET AC
WASHINGTON 27889 919 946-2101

SCHAL, BARTON RILEY ON /HEM 011
ONE DOCTORS DR. A AC
ASHEVILLE 28801 704 254-8232

SCHAL, GEORGE W., JR. GS 092
3334 ALAMANCE DRIVE A L/RT
RALEIGH 27609 919 787-2177

SCHAL, GEORGE W.,III GS /CDS 092
3814 BROWNING PLACE A AC
RALEIGH 27609 919 781-0710

PASCHOLD, EUGENE H. ON /IM 034
3314 HEALY DR. STE. 107 A * AC
WINSTON-SALEM 27103 919 768-2521

PASQUINI, JOHN ALDO CD /IM 060
125 BALDWIN AVE. A AC
CHARLOTTE 28204 704 338-6300

PATE, BARRY REEVES OTO /HNS 011
285 MCDOWELL STREET AC
ASHEVILLE 28803 704 252-1853

PATE, CARL DANIEL, JR. FP 031
PO BOX 986 A AC
BEULAVILLE 28518 919 757-4100

PATE, DEWEY HARRIS PTH 092
WAKE MEMORIAL HOSPITAL A AC
RALEIGH 27610 919 755-8260

PATE, DORIS CATHERINE 074
MEDICAL OAKS APTS. #C-2 A S
GREENVILLE 27834 919 757-3513

PATE, EUGENE WESLEY, JR. ORS 054
KINSTON CLINIC,NORTH AC
KINSTON 28501 919 522-4155

PATE, MARION BUTLER, III GE /IM 053
555 CARTHAGE ST. AC
SANFORD 27330 919 774-4511

PATE, WILLIAM HENRY GP 096
P. O. BOX 129 A AC
PIKEVILLE 27863 919 242-5271

PATEL, JAYESH KANCHANLAL 074
109 STEWARD LANE A S
GREENVILLE 27834 919 756-8948

PATEL, MAHENDRA S. IM /ON 042
240 SMITH CHURCH RD. A AC
ROANOKE RAPIDS 27870 919 537-0134

PATEL, VIJESH K. 074
109 STEWARD LANE A S
GREENVILLE 27834 919 756-8948

PATLAK, ERWIN M. P/EM 067
192 VILLAGE DR. A P * AC
JACKSONVILLE 28540 919 577-1400

PATOW, WARREN EDWARD OBG 026
1601-B OWEN DR. A AC
FAYETTEVILLE 28304 919 323-1152

PATRICK, SIMMONS ISLER R 054
KINSTON CLINIC, NORTH A AC
DOCTOR'S DRIVE
KINSTON 28501 919 527-7077

PATRONE, NICHOLAS ANGELO RHU /IM 074
ECU DEPT. OF MED.& PED. A AC
GREENVILLE 27834 919 551-2533

PATSEAVOURAS, LOUIE LEE PSF 041
522 N. ELAM AVENUE A AC
GREENSBORO 27403 919 299-4907

PATTERSON, BERNARD LOW FP 035
626 N. BICKETT BOULEVARD AC
LOUISBURG 27549 919 496-3680

PATTERSON, CARL NORRIS HNS /MFS 032
1110 W. MAIN STREET A AC
DURHAM 27701 919 682-9341

PATTERSON, DAVID READ GE /IM 041
721 GREEN VALLEY RD. AC
GREENSBORO 27408 919 378-0774

PATTERSON, F. M. SIMMONS GS 074
4503 MORGAN LANE A L/RT
NEW BERN 28560 919 633-3492

PATTERSON, F. M. SIMMONS, JR. CD /IM 063
PO BOX 519 * AC
205 PAGE ROAD
PINEHURST 28374 919 295-5511

PATTERSON, HUBERT CLIFTON OTO /PSF 092
P. O. BOX 18946 A AC
RALEIGH 27619 919 787-7171

PATTERSON, HUBERT CLIFTON GS 032
602 S. COLUMBIA STREET A L/RT
CHAPEL HILL 27514 919 968-3051

PATTERSON, JAMES BENSON D 001
1638 MEMORIAL DR. A * AC
BURLINGTON 27215 919 226-8000

PATTERSON, RICHARD BRUCE PHO /PD 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4085

PATTERSON, ROBERT WILLIAM FP /A 053
110 FIELDS DR. A P AC
PO BOX 1860
SANFORD 27330 919 774-6320

PATTERSON, RONALD HALFORD ORS 063
1902-J N. SANDHILLS BLVD. A AC
ABERDEEN 28315 919 295-1471

PATTERSON, THOMAS HENRY, JR. FP 074
701 N. MAIN STREET AC
FARMVILLE 27828 919 753-3193

PATTON, DENZIL D. FP 074
ECU SCHOOL OF MED. A AC
PO BOX 1846
GREENVILLE 27835 919 551-4614

PATTON, SUZANNE ELIZABETH 032
2808 ERWIN RD., APT. 6A A S
DURHAM 27705 919 383-0446

PAUCA, ALFREDO LAZO AN 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4473

PAUL, FRANKLIN ARTHUR GS 026
6834 TOWBRIDGE ROAD A AC
FAYETTEVILLE 28306 919 599-3346

PAUL, VINCENT EDGAR ORS 041
530 N. ELAM AVENUE A P * AC
GREENSBORO 27403 919 292-8824

PAULSON, DAVID FREEMAN U 032
BOX 2977, DUMC A AC
DURHAM 27710 919 684-5057

PAYNE, CLIFTON GADBERRY FP 079
P. O. DRAWER 1857 AC
REIDSVILLE 27320 919 349-5040

PAYNE, FRED WILLIAM, JR. GS 064
100 NASH MEDICAL ARTS MALL AC
ROCKY MOUNT 27801 919 443-9084

PAYNE, JEFFREY C. 034
315 S. SUNSET DR. APT. 2 A * S
WINSTON-SALEM 27103 919 723-1491

PAYNE, LOEL ZACHARY 032
RT. #11, BOX 94 A S
CHAPEL HILL 27514 919 968-6454

PAYNE, ROBERT BENJAMIN IM /CD 060
3535 RANDOLPH ROAD A AC
CHARLOTTE 28211 704 365-0760

PAYNE, THOMAS ARTHUR 032
405-A COOLRIDGE ST. A S
CHAPEL HILL 27514 919 929-4291

PAYNE, WINSTON CHARLES OPH 011
20/20 PLAZA,90 ASHLAND AVE. A AC
ASHEVILLE 28801 704 253-4735

PEACE, ROBERT JOSEPH PTH 001
1447 YORK COURT A P AC
BURLINGTON 27215 919 584-5171

PEACH, CHARLES ARTHUR OBG 036
902 COX RD., STE. F A AC
GASTONIA 28054 704 867-6386

PEACOCK, ERLE EWART, JR. PS /GS 032
109 CONNER DR., STE. 2204 AC
CHAPEL HILL 27514 919 933-0005

PEACOCK, JAMES EDWARD, JR. ID /IM 034
300 S. HAWTHORNE RD. AC
WINSTON-SALEM 27103 919 748-4507

PEAK, LATHAM CONRAD FP 082
ROSEBORO MEDICAL CLINIC AC
ROSEBORO 28382 919 525-5055

PEARCE, LARRY ALLEN N 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4101

PEARCE, PHILIP HENDERSON OBG 032
1821 GREEN STREET A P AC
DURHAM 27705 919 286-1258

PEARCE, RICHARD EDWARD 074
202-B LINDBETH DR. A S
GREENVILLE 27834 919 756-8447

PEARSE, RICHARD LEHMER OBG /HYP 032
154 MONTROSE DR. A L/RT
DURHAM 27707 919 493-3995

PEARSON, JOHN KENT FP 092
P. O. BOX 727 A AC
APEX 27502 919 362-8312

PEARSON, LAWRENCE HAMILTON D 023
809 N. LAFAYETTE ST. A AC
SHELBY 28150 704 484-0464

PEARSON, WILLIAM SEYMOUR P 034
BOWMAN GRAY SCH. OF MED. A AC
300 S. HAWTHORNE RD
WINSTON-SALEM 27103 919 748-4553

PEDEN, JAMES GWYN, JR. IM /P 074
DEPT. OF MEDICINE A AC
ECU SCHOOL OF MEDICINE
GREENVILLE 27834 919 551-4633

PEDERSON, WM. CHRISTOPHER PS 032
BOX 3974, DUMC AC
DURHAM 27710 919 684-4114

PEDIADITAKIS, NICHOLAS P. P 092
5100 LEADMINE ROAD A AC
RALEIGH 27612 919 787-0710

PEEDIN, JAMES HAROLD,JR. FP 065
P. O. BOX 1177 A * AC
BURGAW 28425 919 259-5721

PEELER, FORREST EDWARDS FP 018
ROUTE #3, BOX 436 A AC
MAIDEN 28650 704 428-2446

PEELER, RON H. EM 018
FRYE REG. MED. CTR. A
420 N. CENTER ST.
HICKORY 28601 704 324-3190

PEETE, CHARLES HENRY, JR. OBG 032
BOX 3192, DUMC A AC
DURHAM 27710 919 684-2346

PEETE, WILLIAM P.J. GS 032
BOX 3506, DUMC A AC
DURHAM 27710 919 684-3727

PEGRAM, PAUL SAMUEL, JR ID /IM 034
2332 ELIZABETH AVENUE A AC
WINSTON-SALEM 27103 919 748-4246

PEKMAN, WILLIAM MARTIN HS /ORS 018
250 18TH ST. CIRCLE, SE AC
HICKORY 28602 704 322-5172

PELLIGRA, SALVATORE JOHN PM 041
1200 N. ELM ST. A AC
GREENSBORO 27401 919 379-3667

PENCE, CARLA RAFFETY IM 034
1900 QUEEN ST. A-4 A P R
WINSTON-SALEM 27103 919 725-7499

PENCE, JAMES JEROME, JR. FP 065
2110 SOUTH 17TH ST. A AC
WILMINGTON 28401 919 763-3481

PENDER, JOHN ROBERT, III GS 060
1851 E. THIRD STREET, STE. 105 AC
CHARLOTTE 28204 704 332-4169

PENDLEY, ROBERT ALAN GE /IM 036
211 S. CHESTNUT STREET AC
GASTONIA 28054 704 867-4406

PENDSE, PRABHAKAR D. PDS /GS 041
1018 PROFESSIONAL VILLAGE A P AC
GREENSBORO 27401 919 272-6161

PENKAR, SURESH JAGANNATH AN 034
3333 SILAS CREEK PARKWAY A AC
WINSTON-SALEM 27103 919 773-3180

PENNELL, TIMOTHY CLINARD GS /TS 034
BOWMAN GRAY - SURGERY A AC
WINSTON-SALEM 27103 919 748-4671

PENNINK, MENNO NS 026
3314 MELROSE RD. STE. 103 A AC
FAYETTEVILLE 28304 919 323-0475

PENNY, LARUE DAVID, JR. PD 023
101 GROVER STREET A AC
SHELBY 28150 704 482-1435

PEPPER, FRANCIS DEWITT, JR. R/NM 034
3155 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27103 919 765-2702

PERDUE, JASPER BURT, JR. GS 035
111 JOLLY STREET AC
LOUISBURG 27549 919 496-4177

PEREZ-REYES, MARIO P 032
107 HUNTER HILL PLACE A AC
CHAPEL HILL 27514 919 933-9829

PEREZ-SELDEN, ALICE R. GS 051
601-A BERKSHIRE RD. AC
SMITHFIELD 27577 919 934-0281

PERKINS, ROBERT SANBORN TS /GS 036
3406 COUNTRY CLUB DR. AC
GASTONIA 28054 704 864-8377

PERONA, BARBARA PIEZ 032
1022 GREEN ST. A S
DURHAM 27701 919 682-3942

PERRAUT, THOMAS CHRISTOPHER OPH 075
212 HOSPITAL DRIVE AC
COLUMBUS 28722 704 894-3037

PERRIN, THOMAS SAMUEL, JR. IM 060
3535 RANDOLPH ROAD A AC
CHARLOTTE 28211 704 365-0760

PERRY, CAREY JONES FP 035
113 JOLLY STREET A * AC
LOUISBURG 27549 919 496-4250

PERRY, DAVID RUSSELL, JR. PD 034
3175 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27103 919 768-7030

PERRY, DWIGHT DEAN OPH 032
512 SIMMONS ST. A AC
DURHAM 27707 919 682-7175

PERRY, GLENN BRADFORD ORS /TRS 060
1822 BRUNSWICK AVE. A AC
CHARLOTTE 28207 704 373-0544

PERRY, HENRY BAKER, JR. GYN 086
477 HAWTHORNE RD. A L/RT
ELKIN 28621 919 835-6183

PERRY, IRVIN SAMUEL PUD /IM 034
2825 LYNDHURST AVENUE A AC
WINSTON-SALEM 27103 919 765-0383

PERRY, JOHN CHRISTOPHER FP 021
P. O. BOX 429 A AC
EDENTON 27932 919 482-2116

PERRY, SAMUEL JOSEPH 034
1723 VIRGINIA RD. 1/2 A S
WINSTON-SALEM 27104 919 724-7601

PETERS, BRYAN MACLIN DR 092
3821 MERTON DR. A AC
RALEIGH 27609 919 755-8511

PETERS, PETER DEMJANTSCHUK GP /EM 012
1115 KATHERINE ST. A AC
VALDESE 28690 704 874-0519

PETERS, ROBERT BROOKES, IV FP 033
101 CLINIC DRIVE AC
TARBORO 27886 919 823-2105

PETERS, STANLEY ORS 018
250 18TH ST. CIR. SE AC
HICKORY 28602 704 322-5172

PETERS, WILLIAM ANTHONY,JR. GYN 070
P. O. BOX 392 A AC
ELIZABETH CITY 27909 919 335-2355

PETERSEN, KENNETH MICHAEL GS /CDS 029
4 MEDICAL PARK DR. AC
LEXINGTON 27292 704 246-2487

PETERSON, ERIC WEBSTER P 011
5 CROWNINGWAY DR. A AC
ASHEVILLE 28804 704 254-3201

PETERSON, HUGH DUANE PS 032
UNC, BURNETT-WOMACK BLDG. AC
CHAPEL HILL 27514 919 966-3693

PETERSON, JEFFREY MCBRAYER 032
2 SPRING GARDEN, HOLLAND DR. A S
CHAPEL HILL 27514 919 933-0153

PETERSON, LLOYD JOHN U 041
200 E.NORTHWOOD ST., STE. 302 A AC
GREENSBORO 27401 919 275-6115

PETERSON, NEIL PAUL R/NM 011
P. O. BOX 2959 AC
ASHEVILLE 28802 704 254-4617

PETERSON, ROBERT L.,JR. OBG 043
608 TILGHMAN DR. A AC
DUNN 28334 919 892-4092

PETERSON, ROBERT LIND OBG 018
210 13TH AVENUE PLACE, N.W. AC
HICKORY 28601 704 322-3018

PETRILLI, ROBERT EM 034
5465 STYERS FERRY RD. A AC
CLEMMONS 27012 919 766-0479

PETROU, HOMER DONALD GS 091
RUIN CREEK ROAD A P AC
HENDERSON 27536 919 438-5755

PETROZZA, JOSEPH ANTHONY GE /IM 049
2601 FINES CREEK DR. A AC
STATESVILLE 28677 704 873-1904

PETROZZA, PATRICIA HARPER AN 034
300 S. HAWTHORNE RD. A P AC
WINSTON-SALEM 27103 919 748-4498

PETTY, JERRY MILLER NS 060
1010 EDGEHILL ROAD, N. A AC
CHARLOTTE 28207 704 376-1606

PFAFF, HERBERT CHARLES 032
1204 N. GREGSON ST. A S
DURHAM 27701 919 682-8336

PFEIFFER, FREDERICK EARLY N/IM 060
126 COTTAGE PLACE A AC
CHARLOTTE 28207 704 334-7311

PHAN, THAI TIEN P 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-3920

PHELAN, JOHN WILLIAM JOSEPH P/IM 029
503 WILLOW DR. AC
THOMASVILLE 27360 919 475-8184

PHELAN, WESTELL C. DR 01
PO BOX 659 A AC
401 MULBERRY ST. SW STE. 111
LENOIR 28645 704 754-228

PHILLIPPI, PAUL JASPER IM 03
261 STAFFORDSHIRE ROAD A AC
WINSTON-SALEM 27104 919 768-940

PHILLIPS, BRUCE ALTON, JR. IM /GE 00
P. O. BOX 86 AC
ELIZABETHTOWN 28337 919 862-321

PHILLIPS, CHARLES A. SPEAS 06
165 PAGE ROAD, #2 A AC
PINEHURST 28374 919 295-531

PHILLIPS, CHARLES WOODROW, JR. FP 00
108 E. MINNEOLA STREET AC
GIBSONVILLE 27249 919 449-413

PHILLIPS, DEWITT DEWEY, JR. GP 06
1012 S. KINGS DR. STE. 822 AC
CHARLOTTE 28283 704 375-635

PHILLIPS, ERNEST PAUL, JR. CD 03
1405 PLAZA DRIVE A AC
WINSTON-SALEM 27103 919 765-413

PHILLIPS, HARRY RISSLER, III CD /IM 03
BOX 3126, DUMC AC
DURHAM 27710 919 681-581

PHILLIPS, KATHRYN ELIZABETH 03
200 BLUERIDGE RD. A
CARRBORO 27510 919 967-105

PHILLIPS, MARVIN WORTH FP 02
P. O. BOX 367 A AC
THOMASVILLE 27360 919 472-726

PHILLIPS, ROBERT LEWIS NS 04
200 NORTHWOOD ST., STE. 206 A AC
GREENSBORO 27401 919 274-466

PHILLIPS, WESLEY FLETCHER FP 03
P. O. BOX 727 A * AC
KERNERSVILLE 27284 919 993-818

PHILLIPS, WILLIAM ALLAN D 06
3208 OLEANDER DRIVE A AC
WILMINGTON 28403 919 763-733

PHIPPS, CARL SPENCER END /IM 03
3333 SILAS CREEK PARKWAY A P * AC
WINSTON-SALEM 27103 919 765-164

PHIPPS, ERVIN LAMAR 07
1500 WILLOW ST. APT. #3 A
GREENVILLE 27834 919 551-337

PICKARD, CARL GLENN, JR. IM 03
N. C. MEMORIAL HOSPITAL AC
CHAPEL HILL 27514 919 966-420

PICKARD, HENRY MACK IM 06
P. O. BOX 3351 A L/R
WILMINGTON 28401 919 791-141

PICKLESIMER, FRED LEON OTO 04
624 QUAKER LN. STE. 301-D A AC
HIGH POINT 27262 919 883-136

PICKREL, JERRY CLINE PTH 07
P. O. DRAWER 403 A AC
ELIZABETH CITY 27909 919 335-225

PIECH, KENNETH STOWELL PTH 02
1211 PINKNEY ST. A * AC
WHITEVILLE 28472 919 642-801

PIERCE, CHARLES GRAINGER PD /PDA 00
201 S. COLONY AVENUE AC
AHOSKIE 27910 919 332-504

PIERCE, HUBERT GAINES IM /CD 05
313 AIRPORT ROAD A AC
KINSTON 28501 919 522-307

PIERCE, ROBERT JAMES, JR. U 01
1202 N. CENTER STREET A AC
HICKORY 28601 704 322-434

PIERSON, GEORGE HERMAN, JR R/TR 04
P. O. BOX 13005 A AC
GREENSBORO 27405 919 379-414

PIERSON, WILLARD CRESSE, JR. GE /IM 09
1212 CEDARHURST DR. AC
RALEIGH 27609 919 872-485

PIGFORD, ROBERT TOMS IM /CD 06
301 COLONIAL DRIVE A L/R
WILMINGTON 28403 919 762-502

PIKE, ISADORE MURRAY ON /HEM 01
80 VICTORIA ROAD AC
ASHEVILLE 28801 704 258-099

PIKE, MICHAEL ROBERT GE /IM 09
1151 KILDAIRE FARM ROAD AC
CARY 27511 919 469-185

KULA, LOUIS, JR. NS 034
3080 TRENWEST DRIVE A AC
WINSTON-SALEM 27103 919 765-3750

LLAI, JEYAKUMAR P. P 036
238-3 WILMOT DR. #239 A AC
GASTONIA 28054 704 867-2338

LLSBURY, HAROLD C.,III OTO /HNS 032
UNC,610 BURNETT-WOMACK 229-H AC
CHAPEL HILL 27514 919 966-3341

PPIN, RICHARD LEE IM 074
201 N. MAIN ST. A AC
FARMVILLE 27828 919 756-9569

SHKO, MICHAEL THEODORE OBG 063
P. O. BOX 339 A L/RT
PINEHURST 28374 919 295-6634

TSER, WILLIAM ROSS OTO 034
1420 PLAZA DRIVE A * AC
WINSTON SALEM N C 27103 919 765-4922

TTAWAY, DONALD EDWARD OBG 034
578 MAIDSTONE LANE AC
CLEMMONS 27012 919 748-2368

TTMAN, ALFRED ROWLAND, JR. IM 078
2606 N. ELM STREET * AC
LUMBERTON 28358 919 739-3362

TTMAN, ERIC WILLIAMS PTH 049
IREDELL MEM. HOSP. BOX 1460 A P AC
STATESVILLE 28677 704 873-5661

TTMAN, WILLIAM BRYAN GE /IM 064
100 NASH MEDICAL ARTS MALL AC
ROCKY MOUNT 27804 919 443-9084

TTS, WILLIAM REID NS /GS 060
429 EASTOVER ROAD A L/RT
CHARLOTTE 28207 704 333-0407

IVER, JAMES DECAMP GS /ABS 067
1002 SCHALL PLACE A AC
JACKSONVILLE 28540 919 353-7848

IXLEY, ROLAND THEO OBG 060
1023 EDGEHILL ROAD, SOUTH A AC
CHARLOTTE 28207 704 373-1541

LESCIA, MARCUS 032
101-A STEPHENS ST. A S
CHAPEL HILL 27514 919 929-9858

LONK, GEORGE WEBB GS 023
902 CRESCENT CIRCLE A L/RT
KINGS MOUNTAIN 28086 704 739-2272

LONK, GEORGE WEBB, JR. GS /VS 034
BOWMAN GRAY - SURGERY A AC
WINSTON-SALEM 27103 919 748-4449

LOWDEN, JAMES FRANCIS ON /HEM 040
P. O. BOX 5904 A AC
HIGH POINT 27262 919 841-2114

LUMMER, CHARLES WAYNE AN 029
50 E. MAIN ST., STE. 111 A AC
THOMASVILLE 27360 919 472-2000

LUNKETT, STEVEN ROCKWELL ON 060
PO BOX 33549 A AC
CHARLOTTE 28233 704 371-4189

LYLER, EDWARD THURMAN FP 012
2203 S. STERLING ST. * AC
MORGANTON 28655 704 437-4211

OCOCK, DONALD ANDREW IM /ID 025
5003 TRENT WOODS DRIVE A AC
NEW BERN 28560 919 633-1010

ODGER, KENNETH ARTHER GYN 032
7701 BEACH DRIVE L/RT
MYRTLE BEACH, SC 29577 803 449-3459

ODGORNY, GEORGE EM /GS 034
2115 GEORGIA AVENUE A * AC
WINSTON-SALEM 27104 919 727-1161

OEHLING, GARY GEORGE ORS /HS 034
BOWMAN GRAY, DEPT. OF ORS A AC
WINSTON-SALEM 27103 919 748-3948

OINTS, GERALD LEE, II IM /FP 065
5305 WRIGHTSVILLE AVE. BLDG.B A AC
WILMINGTON 28403 919 791-3506

OLE, DONALD TALIAFERRO OBG 065
1912 TRADD COURT AC
WILMINGTON 28401 919 343-1113

OLLAK, MICHAEL JOSEPH OBG 034
302 FORSYTH MEDICAL PARK AC
WINSTON-SALEM 27103

OLLARD, HAROLD CALLOWAY,III OBG 034
2927 LYNDHURST AVE. A AC
WINSTON-SALEM 27103 919 765-9350

OLLARD, JOHN ALAN AN 060
1620 SCOTT AVE. A AC
CHARLOTTE 28211 704 331-2372

POLLARD, JOHN CHRISTOPHER PD 026
1213 WALTER REED DRIVE AC
FAYETTEVILLE 28304 919 484-6121

POLLOCK, FRANK EDWARD ORS 034
SALEM ORTHOPAEDIC ASSOC. PA A AC
PO BOX 25007
WINSTON-SALEM 27114 919 768-1270

POLLOCK, HOKE DICKINSON OTO 065
1625 DOCTOR'S CIRCLE A AC
WILMINGTON 28401 919 762-0234

POLLOCK, JOSEPH JORDAN PUD /IM 018
912 SECOND ST., NE AC
HICKORY 28601 704 322-8265

POLLOCK, MORRIS ARTHUR GE /IM 092
1212 CEDARHURST DR. AC
RALEIGH 27609 919 872-4850

POLLOCK, NELSON EARL IM 040
P. O. BOX 5904 A AC
HIGH POINT 27262 919 841-2114

POMERANS, MARK EM /FP 008
ROANOKE-CHOWAN HOSPITAL AC
AHOSKIE 27910 919 332-8121

PONDER, PHILIP WADE 032
405-A COOLIDGE ST. A S
CHAPEL HILL 27514 919 782-1769

PONZI, JOSEPH WILLIAM PD 096
2706 MEDICAL OFFICE PLACE AC
GOLDSBORO 27530 919 734-4736

POOL, ROBERT SMITHWICK PTH /CLP 034
FORSYTH MEMORIAL HOSPITAL A AC
WINSTON-SALEM 27103 919 773-3840

POOLE, ERNEST TILGHMAN OPH /P 065
2310 DELANEY AVENUE A AC
WILMINGTON 28403 919 763-3664

POOLE, GORDON JOSEPH DR 041
1200 N. ELM ST. A AC
MOSES H. CONE HOSPITAL
GREENSBORO 27401 919 379-4140

POOLE, JAMES MORRISON PD /ADL 092
3803 COMPUTER DR., STE. 207 AC
RALEIGH 27609 919 782-5273

POOLE, TERRY WAYNE OBG 092
2500 BLUE RIDGE CTR., STE. 401 A AC
RALEIGH 27607 919 781-5510

POPE, JAMES ELLIS CD 034
300 S. HAWTHORNE ROAD A AC
WINSTON-SALEM 27103 919 748-4326

POPE, ROBERT CLYDE PD 098
WILSON CLINIC A AC
WILSON 27893 919 291-7001

POPE, SAMUEL A. IM 031
A L/RT
BEULAVILLE 28518 919 298-3193

POPE, THOMAS DAVID OBG 012
403 S. KING STREET A AC
MORGANTON 28655 704 433-4661

PORCHEY, CARL JOSEPH, JR. IM 034
3630 WINDING CREEK WAY A AC
WINSTON-SALEM 27106 919 768-4730

PORIES, WALTER JULIUS GS /TS 074
203 CHOWAN ROAD A * AC
GREENVILLE 27834 919 551-4629

PORTELA, ANGEL ISMAEL IM 042
220 SMITH CHURCH ROAD A RT
ROANOKE RAPIDS 27870 919 535-3001

PORTER, CEDRIC WARREN, JR. OBG /GPM 011
93 VICTORIA ROAD A AC
ASHEVILLE 28801 704 253-4821

PORTER, CHARLES ALEXANDER OBG 060
1712 E. FOURTH STREET A AC
CHARLOTTE 28204 704 375-9074

PORTER, DEAN PRIEST 032
250 S. ESTES DR. #34 A S
CHAPEL HILL 27514 919 933-7840

PORTER, ERIC JAMES AN 079
521 PATRICK ST. A AC
EDEN 27288 919 623-1501

PORTER, LISA ELLEN 032
2681 HITCHCOCK DR. A S
DURHAM 27705 919 471-9289

PORTER, RICHARD ALLISON FP 045
1107 WOODMONT DR. A L/RT
HENDERSONVILLE 28739 704 693-5128

POSSINGER, CLIVE FRANCIS, JR. IM 045
P. O. BOX 217 AC
NAPLES 28760 704 684-1030

POSTLETHWAIT, RAYMOND W. GS 032
143 PINECREST RD. A L/RT
DURHAM 27705 919 489-8865

POTEAT, HUBERT MCNEILL, JR. GS 051
P. O. BOX 88 A L/RT
SMITHFIELD 27577 919 934-2524

POTOCKI, LANCE DEWITT FP 021
PO BOX 429 A AC
EDENTON 27932 919 482-2116

POTTER, JOAN GARSKA FP 032
109 CONNER DR., STE. 2203 AC
CHAPEL HILL 27514 919 929-5700

POTTER, PATRICIA LYNN AN 060
6439 BENTRIDGE DR. AC
CHARLOTTE 28207 704 377-1647

POTTS, FREDERICK LATHAM, III EM 074
T-1 DOCTORS PK, BEASLEY DR. A R
GREENVILLE 27834 919 758-1102

POTTS, JAMES MARTIN GS /TS 023
809 N. LAFAYETTE STREET A AC
SHELBY 28150 919 487-8591

POTTS, LEO JOSEPH P 011
P. O. BOX 1101 A * AC
HIGHLAND HOSPITAL
ASHEVILLE 28802 704 254-3201

POTTS, RONALD SARGENT PTH 080
115 WAVERLY CIRCLE A P AC
SALISBURY 28144 704 633-7765

POWE, CHARLES EDWIN, JR. OBG 060
3535 RANDOLPH ROAD, STE. 105 A AC
CHARLOTTE 28211 704 365-0470

POWELL, ALBERT H., JR. P/PYM 000
20 KOGER EXECUTIVE CTR. #212 A AC
NORFOLK, VA 23502 804 461-2485

POWELL, ALLEN ORLO 032
RT. #1, BOX 172 A * S
DURHAM 27705 919 493-8238

POWELL, BAYARD LOWERY ON /HEM 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-2946

POWELL, BENJAMIN PHILIP AN 011
421 VANDERBILT ROAD A AC
ASHEVILLE 28803 704 252-1016

POWELL, DAVID CLIFTON GS 092
1101 DRESSER COURT AC
RALEIGH 27609 919 876-2010

POWELL, DON WATSON GE /IM 032
UNC,326 BURNETT-WOMACK BLDG. AC
CHAPEL HILL 27514 919 966-2511

POWELL, E. CHARLES OBG 096
100 WOOTEN POINT ROAD A L
GOLDSBORO 27530 919 778-2692

POWELL, JACK GS 011
190 W. DOCTOR'S BUILDING A AC
ASHEVILLE 28801 704 253-1529

POWELL, JAMES BLACKMON, II HNS /PSF 011
131 MCDOWELL STREET A AC
ASHEVILLE 28801 704 254-3517

POWELL, JAMES BOBBITT PTH 001
1447 YORK COURT AC
BURLINGTON 27215 919 584-5171

POWELL, JAMES MEYERS, JR. P/CHP 060
2315 RANDOLPH ROAD AC
CHARLOTTE 28207 704 377-4243

POWELL, JESS AVERETTE,III DR 023
201 GROVER STREET A P AC
SHELBY 28150 704 487-3141

POWELL, KENNETH ALTON FP 012
P. O. BOX 330 AC
RUTHERFORD COLLEGE 28671 704 874-2107

POWELL, ROBERT NARROWAY IM 070
1142 N. ROAD STREET AC
ELIZABETH CITY 27909 919 338-4117

POWELL, THOMAS EDWARD, III PTH 001
P. O. BOX 2536 A P AC
BURLINGTON 27215 919 227-1235

POWELL, THOMAS WILLIAM GS /CDS 013
48 ARDSLEY AVE, NE AC
CONCORD 28025 704 786-1108

POWELL, WILLIAM CARLYLE PD 026
P. O. BOX 53127 A AC
FAYETTEVILLE 28305 919 484-3121

POWELL, WILLIAM ERNEST, JR. GP 057
1 CHESTNUT STREET A AC
MARS HILL 28754 704 689-2581

POWELL, WILLIAM FLYNN OPH /OTO 011
62 GERTRUDE PLACE A L/RT
ASHEVILLE 28801 704 252-8931

POWER, BHASKAR DAYARAM OTO /A 042
240 SMITH CHURCH ROAD A AC
ROANOKE RAPIDS 27870 919 535-1411

POWERS, BARRY DR 074
306 STANWOOD DRIVE A AC
GREENVILLE 27834 919 752-5000

POWERS, DOUGLAS FULLER CHP /P 060
5517 EAGLE LAKE DR., SOUTH A AC
CHARLOTTE 28210 704 588-2289

POWERS, STEPHEN KENT NS 032
UNC, 148 CLINICAL SCI. BLDG. A AC
CHAPEL HILL 27514 919 966-1374

PRACYK, JOHN BRADFORD 032
610 DOUGLAS ST., APT. 312-B A S
DURHAM 27705 919 286-7365

PRANGE, ARTHUR JERGEN, JR. P 032
NCMH, DEPT. OF PSYCHIATRY A AC
CHAPEL HILL 27514 919 966-1480

PRATHER, DONNA LYNN P 032
311 BLUERIDGE RD. AC
CARRBORO 27510 919 929-6519

PRATHER, FONZO GOFF GP 011
5 FAIRWAY DRIVE A L/RT
ASHEVILLE 28805 704 298-4071

PRATT, LAURA WINSTEAD FP 092
3400 EXECUTIVE DR. STE. 203 A AC
RALEIGH 27609 919 878-0340

PRATT, REBECCA ANN 032
209 ALEXANDER ST. APT. D A S
DURHAM 27705 919 684-7590

PREFONTAINE, J. EDOUARD OPH 041
830 SOUTHEASTERN BLDG. A L/RT
GREENSBORO 27401 919 272-3523

PRENTICE, ROBERT DEREK FP 032
3500 WESTGATE DR., STE. 705 AC
DURHAM 27707 919 493-8600

PRESSLY, CLAUDE LOWRY GS /TS 060
1863 CASSAMIA PL. A L/RT
CHARLOTTE 28211 704 376-0327

PRESSLY, DAVID LOWRY FP 049
1109 DAVIE AVENUE A L
STATESVILLE 28677 704 872-5671

PRESSLY, JAMES ALLEN ORS 060
2300-B RANDOLPH ROAD AC
CHARLOTTE 28207 704 375-5955

PRESSLY, JAMES PATTERSON OPH 060
3535 RANDOLPH ROAD A AC
CHARLOTTE 28211 704 364-8576

PRESSON, THOMAS LEMUEL ORS 041
315 W. WENDOVER AVENUE A AC
GREENSBORO 27408 919 275-0724

PRESTON, EDWIN THORNTON ORS 032
110 S. ESTES DRIVE A AC
CHAPEL HILL 27514 919 942-3171

PRESTON, RONALD ALLYN IM 025
P. O. BOX 68 A AC
POLLOCKSVILLE 28573 919 633-1010

†PREVETTE, JOHN EDGAR OBG 051
601-A EIGHTH STREET AC
DECEASED - 4-26-87
SMITHFIELD 27577 919 934-8548

PRICE, ANDREW RICHARD IM 098
1901 S. TARBORO ST. A * AC
PO BOX 3188
WILSON 27893 919 243-5505

PRICE, BILLY LEE, JR. 074
C-6 SHERATON VILLAGE A S
GREENVILLE 27834 919 756-5425

PRICE, GRADY EDWIN ORS 060
2001 RANDOLPH ROAD A P * AC
CHARLOTTE 28207 704 377-4907

PRICE, HARVEY CRAIG HNS 092
1905 STURBRIDGE COURT A P AC
RALEIGH 27612 919 782-8955

PRICE, JAMES LOUIS, III OBG 065
1612 DOCTOR'S CIRCLE AC
WILMINGTON 28401 919 763-9015

PRICE, JERRY THEODORE 000
322 KEYWOOD DR. A R
LYNCHBURG, VA 24501 804 239-4961

PRICE, JULIE B. GP 092
1026 MONMOUTH AVENUE AC
DURHAM 27701 919 481-0277

PRICE, ROBERT EDWIN, JR. NS 032
1830 HILLANDALE ROAD A AC
DURHAM 27705 919 383-5531

PRICE, THOMAS BAKER GS 041
200 E. NORTHWOOD ST., STE. 304 A AC
GREENSBORO 27401 919 378-9811

PRICHARD, ROBERT WILLIAMS PTH 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-2649

PRIDE, HAROLD SYLVESTER FP /PD 060
951 S. INDEPENDENCE #200 AC
CHARLOTTE 28202 704 377-3015

PRINCE, GEORGE EDWARD PD 036
3709 ST. REGIS DR. A AC
GASTONIA 28054 704 866-3222

PRINCE, JAMES WILLIAM P 008
RT. #1, BOX 15Y AC
HARRELLSVILLE 27942 919 332-4137

PRINTZ, DON RALPH D 011
10 DEERFIELD ROAD A L/RT
ASHEVILLE 28803 704 274-1234

PRITCHARD, DOUGLAS DUSSEL AN 049
504 CATS PAW LN., RT. 10 P AC
STATESVILLE 28677 919 873-0281

PRITCHARD, WILLIAM LEE NS 060
2711--204 RANDOLPH ROAD A * AC
CHARLOTTE 28207 704 333-2175

PRITCHETT, NEWTON GEORGE IM 092
2800 BLUE RIDGE, STE. 205 A AC
RALEIGH 27607 919 782-0414

PRIVETTE, DOUGLAS CRAIG CD /IM 074
222 KING GEORGE ROAD AC
GREENVILLE 27834 919 752-6101

PRIVETTE, MELINDA HILL 032
29 MAXWELL RD. A S
CHAPEL HILL 27514 919 967-7156

PROCTER, WILLIAM IVAN IM 092
3900 BROWNING PLACE A AC
RALEIGH 27609 919 781-9650

PROCTOR, CAMILLA ALLYN PUD 064
3009 ZEBULON ROAD A P AC
ROCKY MOUNT 27801 919 443-2552

PROCTOR, RICHARD CULPEPPER P 034
381 WESTVIEW DR., S.W. A RT
WINSTON-SALEM 27104 919 723-6020

PROIA, ALAN DAVID PTH 032
4118 DEEPWOOD CIRCLE A AC
DURHAM 27707 919 489-3161

PROSNITZ, LEONARD R. TR 032
BOX 3085, DUMC AC
DURHAM 27710 919 684-3805

PRUETT, DENNIS DERWOOD EM 034
1611 W. FIRST STREET A P AC
WINSTON-SALEM 27104 919 721-1075

PRUITT, JERRY L. D 018
24 SECOND AVENUE, N.E. A * AC
HICKORY 28601 704 328-6185

PRUITT, RONALD ANTHONY ORS 001
316 N. GRAHAM-HOPEDALE RD. AC
BURLINGTON 27215 919 227-3621

PRUTHI, ASIT SOM 032
311 S. LASALLE ST., APT. 38N A S
DURHAM 27705 919 286-2615

PUCKETT, JAMES BUTLER IM /ON 013
68 LAKE CONCORD RD., NE A AC
CONCORD 28025 704 782-3135

PUGH, JAMES EDWIN, JR. N 060
126 COTTAGE PLACE A AC
CHARLOTTE 28207 704 334-7311

PUGH, RAEFORD THEODORE FP 007
619 E. 12TH STREET AC
WASHINGTON 27889 919 946-6486

PUGH, VERNON WATSON, JR. PD 092
1321 OBERLIN ROAD A AC
RALEIGH 27608 919 828-4747

PULEO, ELLEN ANNE OBG 063
CCNC, P. O. BOX 786 AC
PINEHURST 28374

PULKINGHAM, NATHAN CARR 074
28 LEXINGTON SQ. APTS. A S
GREENVILLE 27834 919 756-4752

PULLIAM, THOMAS JACKSON IM 034
2811 FOXWOOD LANE A R
WINSTON-SALEM 27103 919 760-4557

PULLY, ROSE FP 054
318 COLLEGE STREET A * L/RT
KINSTON 28501 919 523-2569

PURCELL, PETER NELSON 074
APT. Q-2, DOCTORS PARK A S
GREENVILLE 27834 919 551-3023

PURCELL, VALERIE D. 074
I-11 DOCTORS PARK APTS. A S
GREENVILLE 27834 919 752-0581

PURCELL, WILLIAM ROBERT PD 083
418 KING STREET AC
LAURINBURG 28352 919 276-7570

PURNELL, WILLIAM DAVID OPH 092
801 OBERLIN ROAD, STE. 220 AC
RALEIGH 27605 919 828-0628

PURUSHOTHAMAN, CHANDROTH V. CD /IM 016
#4 MEDICAL PARK A AC
MOREHEAD CITY 28557 919 247-5426

PURUT, CEMIL M. 032
BOX 2765, DUMC A S
DURHAM 27710 919 684-5939

PURVIS, WILLIAM HENRY U 063
404 N. HOLLY STREET A AC
SILER CITY 27344 919 775-7146

PUSTROM, EINAR P/CHP 036
239 WILMONT ROAD AC
GASTONIA 28054 704 867-2338

PUTMAN, CHARLES EDGAR R/IM 032
BOX 3808, DUMC A AC
DURHAM 27710 919 684-3403

PUTMAN, STEVEN FREDERICK N 060
2608 E. SEVENTH ST. * AC
CHARLOTTE 28204

PUTNEY, ROBERT HUBBARD, JR. FP 098
P. O. BOX 519 A AC
ELM CITY 27822 919 236-4341

PYERITZ, ERIC ALLEN FP 011
501 BILTMORE AVE. A AC
ASHEVILLE 28801 704 258-0670

PYLES, JERALD DENNIS IM 045
510 7TH AVENUE, WEST A AC
HENDERSONVILLE 28739 704 692-2231

QUEEN, HUGH OSCAR FP 077
315 CHARLOTTE STREET A AS
HAMLET 28345 919 582-3241

QUEEN, JEFFREY SCOTT PD 060
115 TURTLE CREEK RD. #2 A R
CHARLOTTESVILLE, VA 22901

QUEEN, KATE TAYLOR RHU /IM 044
102 HOSPITAL DR. AC
CLYDE 28721 704 452-0331

QUEEN, LAURINDA LEE D 092
4505 FAIR MEADOWS LN.,STE.103 A AC
RALEIGH 27607 919 783-7877

QUERY, LUKE WALTER, JR. IM 076
132 W. MILLER STREET L/RT
ASHEBORO 27203 919 625-3218

QUERY, RICHARD ZIMRI, JR. RHU /IM 060
1903 QUEENS RD. WEST A L/RT
CHARLOTTE 28207 704 333-8055

QUIGLESS, MILTON DOUGLAS, JR. GS 092
100 SUNNYBROOK ROAD A AC
P. O. BOX 14445
RALEIGH 27620 919 821-5771

QUIGLESS, MILTON DOUGLAS, SR. GP /D 033
P. O. BOX 368 AC
TARBORO 27886 919 823-2112

QUINN, CLIFTON LEE P 092
3125 GLENWOOD PROF VILLAGE A AC
RALEIGH NC 27608 919 782-0166

QUINN, CORBETT LATIMER FP /PH 031
112-116 N. R.R. ST. AC
MAGNOLIA 28453 919 289-4165

QUINN, MARSHALL K. FP 031
PO BOX 189 AC
MAGNOLIA 28453 919 289-4165

QURESHI, AFTAB AHMAD GS /OBG 008
312 S. ACADEMY STREET A AC
AHOSKIE 27910 919 332-2244

QURESHI, AYYAZ MAHMOOD IM /ON 079
505 N. THIRD AVE. AC
MAYODAN 27027 919 548-2456

QURESHI, FAIQA AFTAB PD 008
421 S. PEACHTREE STREET AC
AHOSKIE 27910 919 332-3403

RAAB, MARY JERISTA ON /HEM 074
ECU SCHOOL OF MEDICINE A AC
GREENVILLE 27834 919 551-2383

AAB, SPENCER O. ON /HEM 074
ECU SCHOOL OF MEDICINE A AC
GREENVILLE 27834 919 551-2383

ABEN, MILTON TR 034
N. C. BAPTIST HOSPITAL AC
WINSTON-SALEM 27103 919 748-4981

ABIL, WILLIAM EDMOND GS /GYN 034
2240 CLOVERDALE AVE., STE. 218 A AC
WINSTON-SALEM 27103 919 722-3691

ABOLD, LEONARD JAMES IM 041
209 HOMEWOOD AVENUE A L/RT
GREENSBORO 27403 919 379-4025

ACKLEY, JAMES WAYNE PD /HEM 034
250 CHARLOIS BLVD. A AC
WINSTON-SALEM 27103 919 768-4730

ADFORD, HOWARD LEE FP 081
P. O. BOX 427 A P AC
CLIFFSIDE 28024 704 657-5221

ADFORD, WANDA LEE OBG 092
2800 BLUE RIDGE BLVD.,STE. 206 AC
RALEIGH 27607 919 781-7450

AFT, ELIZABETH VANCE CHP /P 032
33 KIMBERLY DRIVE AC
DURHAM 27707 919 489-7011

AGAZ, FLORIAN JOHN GP /CD 059
315 E. COURT STREET A AC
MARION 28752 704 652-4420

AIFORD, FLETCHER LINDSAY PU 045
1023 FOREST HILL RD. A * L
HENDERSONVILLE 28739 704 693-3296

AKFAL, SUSAN MAFFEY TR 074
ECU SCHOOL OF MED. AC
RADIATION ONCOLOGY CTR.
GREENVILLE 27835 919 551-2900

ALLIS, MICHAEL GEORGE IM 065
301 S. MCNEIL ST. A P AC
PO BOX 1179
BURGAW 28425 919 259-5011

AM, BERNARD ALLEN U 049
760 HARTNESS ROAD A AC
STATESVILLE 28677 704 873-4741

AM, CECIL CASPER U 049
774 HARTNESS ROAD A P AC
STATESVILLE 28677 704 873-3231

AMBO, V. BIRCH GS 006
341 PONCE DE LEON NE H
ATLANTA, GA 30365

AMPULLA, ELLIOT JOHN AN 026
1762 METROMEDICAL DRIVE A AC
P. O. BOX 64405
FAYETTEVILLE 28306 919 323-5491

AMQUIST, NEIL ALBERT DR 092
713 NEW KENT PLACE A AC
CARY 27511 919 783-3023

AMSDELL, CHARLES MICHAEL RHU /IM 074
1705 W. SIXTH STREET AC
GREENVILLE 27834 919 752-6101

AMSEY, EDWARD ALLISON PD 064
124 FOYE DRIVE AC
ROCKY MOUNT 27804 919 443-4031

AND, CECIL HOLMES, JR. IM /PUD 074
1800 W. FIFTH STREET A AC
GREENVILLE 27834 919 752-3185

AND, TOM SLADE ORS 098
1704 S. TARBORO ST. A AC
WILSON 27893 919 291-7001

ANDALL, MARCUS EDDIE ON 034
300 S. HAWTHORNE RD. A AC
DIV. RADIATION ONCOLOGY
WINSTON-SALEM 27103 919 748-4981

ANDOLPH, ANGUS CRAWFORD P/N 034
300 S. HAWTHORNE RD. A L
WINSTON-SALEM 27103 919 748-4635

ANEY, RICHARD BEVERLY, SR. ORS 032
N. C. MEMORIAL HOSPITAL A L/RT
CHAPEL HILL 27514 919 966-2030

ANGAR, JITINDER SINGH DR /NM 051
P. O. BOX 58 AC
SMITHFIELD 27577 919 934-8171

RANKIN, CHARLES ALBERT, JR. OBG 011
80 VICTORIA ROAD A AC
ASHEVILLE 28801 704 255-8900

RANKIN, JAMES SCOTT TS 032
BOX 3851, DUMC A AC
DURHAM 27710 919 684-2718

RANKIN, PRESSLEY ROBINSON, JR. FP 077
P. O. BOX 40 A AC
ELLERBE 28338 919 652-3321

RANKIN, RICHARD BRANDON, JR. OPH 013
500 LAKE CONCORD RD., NE A AC
CONCORD 28025 704 782-1127

RANKIN, RICHARD EUGENE FP /GP 036
RANKIN CLINIC A AC
MOUNT HOLLY 28120 704 827-3031

RANKIN, RUFUS PINKNEY, JR. GYN 060
1851 E. THIRD STREET AC
CHARLOTTE 28204 704 332-8103

RANN, EMERY LOUVELLE FP 060
1001 BEATTIES FORD ROAD A L/RT
CHARLOTTE 28216 704 333-0721

RANSON, JOHN LESTER, JR. IM 060
335 N. CASWELL ROAD A AC
CHARLOTTE 28204 704 376-4852

RANSON, WILLIAM ALEXANDER IM 060
1012 S. KINGS DR. A AC
CHARLOTTE 28283 704 374-0773

RAO, INNANJE RAVINDRANATH CD /IM 060
2330 RANDOLPH AT LAUREL A AC
CHARLOTTE 28207 704 377-0575

RAPER, JAMES SIDNEY R 011
29 MARTINDALE ROAD A L/RT
ASHEVILLE 28804 704 253-0027

RAPP, IRA HAMMES ORS 060
1500 PROVIDENCE RD. A RT
CHARLOTTE 28207 704 821-8528

RARDIN, THOMAS EDWIN RHU 011
43 OAKLAND ROAD A AC
ASHEVILLE 28801 704 253-2824

RASBERRY, EDWIN ALBERT, JR. IM 098
WILSON CLINIC A L
WILSON 27893 919 291-7001

RATCHFORD, GEORGE RUFUS, JR. IM 064
100 NASH MEDICAL ARTS MALL AC
ROCKY MOUNT 27801 919 443-9084

RATHBUN, LEWIS STANDISH GYN 011
76 FOREST RD. A L/RT
ASHEVILLE 28803 704 274-0748

RATHBUN, MARY ANNE NPM /PD 060
CHARLOTTE MEM. HOSPITAL A AC
P. O. BOX 32861
CHARLOTTE 28232 704 338-3156

RATHMELL, JAMES PHILLIP 034
2080 CRAIG STREET A S
WINSTON-SALEM 27103 919 723-7041

RAU, BRUCE WILLIAM P 034
190 CHARLOIS BLVD. A AC
WINSTON-SALEM 27103 919 768-6930

RAUCK, RICHARD LEE AN 034
2386 FAIRWAY DR. A AC
WINSTON-SALEM 27103 919 748-2591

RAVENEL, SAMUEL DUBOSE PD 041
1200 N. ELM STREET A AC
GREENSBORO 27401 919 379-3900

RAVIN, CARL ERIC R 032
BOX 3808, DUMC A AC
DURHAM 27710 919 681-5268

RAWL, RICHARD PRESTON FP 074
P. O. BOX 339 A AC
BETHEL 27812 919 825-0355

RAWLS, WILLIAM OBG 025
801 MCCARTHY BLVD. A AC
NEW BERN 28560 919 633-3942

RAY, V. GAIL EM 074
DEPT. OF EMERGENCY MED. A AC
ECU SCHOOL OF MEDICINE
GREENVILLE 27834 919 551-4757

RAY, VERONICA JOSEPHINE FORBES IM 032
1301 FAYETTEVILLE ST. AC
DURHAM 27707 919 683-1316

RAY, WALTER CARROLL GYN 041
522 N. ELAM AVE. A * AC
GREENSBORO 27403 919 299-3101

RAYMER, JAMES BARKER GS 060
1928 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 333-6524

RAYNOR, LEIGHTON ALVIN OPH 012
335 E. PARKER RD. AC
MORGANTON 28655 704 433-6220

REAMES, PATRICK MARTIN R 060
PO BOX 33549 A AC
CHARLOTTE 28233 704 371-4056

RECKER, SCOTT F. PM 074
PO BOX 6028 A AC
REGIONAL REHABILITATION CTR.
GREENVILLE 27834 919 551-4440

RECKLESS, JOHN BRIAN P/PYM 032
1816 FRONT ST., STE. 310 A AC
DURHAM 27705 919 383-1502

RECORD, S. LEO, JR. FP 034
P. O. BOX 627 A AC
KERNERSVILLE 27284 919 993-8181

REDDING, MARSHALL SIMMS OPH 070
1142 N. ROAD ST. A * AC
PO BOX 1402
ELIZABETH CITY 27909 919 335-5446

REDDY, AMARENDRA BUSA CD /IM 092
3020 NEW BERN AVE., STE. 410 A AC
RALEIGH 27610 919 828-8967

REDDY, PARVATA CHINNA P. AN 032
DURHAM CO. GENERAL HOSP. A P AC
DURHAM 27704 919 471-3411

REDDY, PUTLUR RAMACHANDRA IM /ON 091
MEDICAL ARTS BUILDING A AC
RUIN CREEK ROAD
HENDERSON 27536 919 492-6127

REDDY, SREENIVAS MADDURI IM /ON 012
PO BOX 726 AC
VALDESE 28690 704 874-2921

REDICK, LLOYD FRANKLIN AN 032
BOX 3094, DUMC A AC
DURHAM 27710 919 684-6736

REDWINE, JAMES DANIEL GP 029
6 WILLIAMS CIRCLE A L/RT
LEXINGTON 27292 704 246-2658

REECE, ORVIL YOUNG, JR. PD 054
2509 N. QUEEN ST. AC
KINSTON 28501 919 522-0335

REED, CHARLES NATHAN D/IM 018
24 SECOND AVE., NE A * AC
HICKORY 28601 704 328-6185

REED, JAMES CROFT R 025
P. O. BOX 2065 A AC
NEW BERN 28560 919 633-5057

REED, JOHN WILLIAM OPH 034
BOWMAN GRAY, DEPT. OF OPH A AC
WINSTON-SALEM 27103 919 748-4091

REEDER, PAUL ARLINGTON GS 039
1026 COLLEGE STREET A AC
OXFORD 27565 919 693-7066

REES, MICHAEL STEVENS IM 092
3101 ESSEX CIRCLE, BLDG. E A AC
RALEIGH 27608 919 782-2631

REESE, MITCHELL CRAWFORD PD 053
555 CARTHAGE STREET * AC
SANFORD 27330 919 776-7534

REEVES, WILLIAM JOHN PTH 013
CABARRUS MEM. HOSP. A P AC
CONCORD 28025 704 786-2111

REEVES, WM. CHARLES CD 074
ECU SCHOOL OF MEDICINE A AC
SECTION OF CARDIOLOGY
GREENVILLE 27858 919 757-4651

REEVES, WOODROW WILSON, JR. U 000
123 1/2 BANBERRY LANE A R
LEXINGTON, KY 40503 606 277-5344

REGISTER, JOHN FRANCIS ORS 041
310 ROCKFORD ROAD A L
GREENSBORO 27401 919 274-0161

REIBEL, DONALD BAUMANN ORS 092
P. O. BOX 10707 A AC
RALEIGH 27605 919 781-5600

REIBOLD, ROBERT J. IM 045
111 TIMBERCREEK RD. A AC
HENDERSONVILLE 28739 704 692-3539

REICHLING, GEORGE HENRY D 067
300 WESTERN BLVD. AC
JACKSONVILLE 28540 919 577-7288

REICHLING, PIRKKO ESTERI GP 067
300 WESTERN BLVD. AC
JACKSONVILLE 28540 919 353-0176

REID, CHARLES FREDRIC U 034
1806 S. HAWTHORNE RD. A AC
PO BOX 5655
WINSTON-SALEM 27103 919 768-0735

REID, CHARLES HAMILTON,JR. IM 034
215 PLYMOUTH AVE. A L/RT
WINSTON-SALEM 27104 919 768-0994

REID, ROBERT LEARY FP /CD 055
110 DOCTOR'S PARK AC
P. O. BOX 578
LINCOLNTON 28092 704 735-7414

REID, ROBERT LEARY, JR. FP 055
110 DOCTOR'S PARK AC
P. O. BOX 578
LINCOLNTON 28092 704 735-7413

REID, STEVEN HUNTER DR 000
803 DELANEY ST. A R
RICHMOND, VA 23229 804 741-5748

REID, WILLIAM JOSEPH FP 041
2301 DANBURY ROAD A L
GREENSBORO 27408 919 274-6171

REIDA, RONALD JACK EM /PD 025
4514 GREENVIEW RD. A AC
NEW BERN 28560 919 637-4016

REINDOLLER, ROBERT WILLIAM GE /IM 060
1900 RANDOLPH RD. STE. 910 A AC
CHARLOTTE 28207 704 372-7974

REISER, HARVEY J. OPH 032
9TH AND WALNUT STREETS A R
PHILADELPHIA, PA 19107

REITER, RICHARD MARTIN GS 082
603 BEAMON ST. AC
CLINTON 28328 919 592-8711

REMINGTON, JOHN LAUREN DR 065
2101 S. LIVE OAK PARKWAY A AC
WILMINGTON 28403 919 762-3882

RENALDO, DONALD PHILIP OPH 060
1900 RANDOLPH ROAD A P * AC
CHARLOTTE 28207 704 376-5424

RENDALL, JOHN LLOYD, III ORS 041
108 KEMP ROAD, EAST A AC
GREENSBORO 27410 919 275-6318

RENDLEMAN, DAVID ATWELL, III ORS 092
3410 EXECUTIVE DRIVE A * AC
RALEIGH 27609 919 872-5296

RENDLEMAN, DAVID ATWELL, JR. FP 080
P. O. BOX 4327 AC
SALISBURY 28144 704 633-0844

RENNICK, JOHN H., JR. FP 091
PO BOX 425 AC
MANSON 27553 919 456-2181

RENUART, ADHEMAR WILLIAM, III N/PD 032
1830 HILLANDALE ROAD AC
DURHAM 27705 919 383-5531

REVELLE, BONNIE CAULKINS PD 008
421 S. PEACHTREE ST. AC
AHOSKIE 27910 919 332-3403

REVES, JOS. GERALD AN 032
BOX 3094, DUMC A AC
DURHAM 27710 919 681-6646

REYNOLDS, ERNEST HAROLD FP 079
P. O. BOX 330 A L
REIDSVILLE 27320 919 349-3332

REYNOLDS, FRANK RUSSELL PD 065
1613 DOCK STREET A P * AC
WILMINGTON 28401 919 763-4272

REYNOLDS, JAMES WOODROW, JR. OTO /A 080
826 W. HENDERSON STREET * AC
SALISBURY 28144 704 633-8276

REYNOLDS, JOHN LAURENCE AN 023
404 MELODY LANE AC
SHELBY 28150 704 482-5716

REYNOLDS, JOHN OZMENT, JR. OPH 080
410 MOCKSVILLE AVE. A P * AC
SALISBURY 28144 704 637-0158

REYNOLDS, JOYCE HINSON EM 034
9550 FREEMAN ROAD AC
KERNERSVILLE 27284 919 996-2173

REYNOLDS, ROBERT JACK IM 011
445 BILTMORE AVE. STE. 407 A AC
ASHEVILLE 28801 704 258-0397

RHOADES, VADE G. D 034
2240 CLOVERDALE AVE., STE. 98 A * AC
WINSTON-SALEM 27103 919 723-1834

RHOADS, EDWARD JOHN P/PYA 041
606 WALTER REED DR. AC
GREENSBORO 27403 919 299-0511

RHOADS, JOHN MCFARLANE P/PYA 032
BOX 3903, DUMC AC
DURHAM 27710 919 684-6224

RHODES, CECIL DAVID, JR. IM /A 098
P. O. BOX 27894-0309 A AC
WILSON 27894

RHODES, JAMES SLADE, JR. GP 007
407 N. SMITHWICK ST. A L/RT
WILLIAMSTON 27892 919 792-2036

RHODES, JOHN FLINT U 092
2800 BLUE RIDGE BLVD. STE. 403 A P AC
RALEIGH 27607 919 781-7113

RHODES, JOHN SLOAN U 092
10 SPRINGMOOR DRIVE A L/RT
RALEIGH 27615 919 848-7010

RHODES, MARSHA JERNIGAN PD 060
249 BILLINGSLEY ROAD AC
CHARLOTTE 28211 704 375-1885

RHYNE, JAMES MOODY IM /N 049
757 BRYANT ST. * AC
STATESVILLE 28677 704 873-5658

RHYNE, JIMMIE LEE PH /PD 092
DIV.OF HEALTH SERVICES * AC
PO BOX 2091
RALEIGH 27602 919 733-7791

RIBNER, BRUCE STEVEN ID 011
VA MEDICAL CENTER AC
ASHEVILLE 28805 704 298-7911

RICCI, DANIEL MICHAEL IM 031
RT. #2, BOX 117X A AC
WARSAW 28398 919 289-3086

RICE, A. DOUGLAS PD 032
2919 COLONY ROAD A AC
DURHAM 27705 919 489-9158

RICE, EDMOND LEE GS 036
UNITED CHRISTIAN HOSPITAL H
LAHORE, WEST PAKISTAN

RICE, JOHN RUSSELL RHU 032
BOX 3383, DUMC A AC
DURHAM 27710 919 684-3313

RICE, JOHN SIDNEY D 018
143 33RD AVENUE, NW A L/RT
HICKORY 28601 704 327-0069

RICE, LUCIAN CANDLER, JR. IM 011
147 ASHELAND AVENUE A AC
ASHEVILLE 28801 704 258-1188

RICE, REED PORTER DR 032
DUKE HOSPITAL A AC
DURHAM 27710 919 684-2711

RICE, WILLIAM CHARLES U 060
1012 S. KINGS DR., STE. 806 A AC
CHARLOTTE 28283 704 334-6449

RICE, WILLIAM YATES, III 034
706 FRIAR TUCK ROAD A S
WINSTON-SALEM 27104 919 768-7293

RICHARDS, FREDERICK, II ON /HEM 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4337

RICHARDS, ROBERT DAY FP 098
ROUTE #2 A AC
WILSON 27893 919 291-2215

RICHARDSON, DAVID LEE IM 078
395 WEST 27TH STREET A AC
LUMBERTON 28358 919 739-7551

RICHARDSON, ERNEST C., JR. GYN /OBS 025
4001 TRENT PINES DR. A L
NEW BERN 28560 919 633-3942

RICHARDSON, GEORGE IRVIN FP 079
P. O. BOX 1857 AC
REIDSVILLE 27320 919 349-5040

RICHARDSON, LUCILE WELSH PUD /IM 047
355 PEACH STREET L/RT
PINEBLUFF 28373 919 281-3236

†RICHARDSON, WILLIAM PERRY GPM 032
300 GLANDON DRIVE A L
DECEASED -- 4-14-87
CHAPEL HILL 27514 919 942-3560

RICHER, CHARLOTTE MARTHA PUD /PD 047
DIV. OF HEALTH SERVICES A AC
STE. 506, WACHOVIA BLDG.
FAYETTEVILLE 28301 919 486-1191

†RICHMAN, SAMUEL DR 041
342 N. ELM STREET A L
DECEASED - 6-5-87
GREENSBORO 27401 919 275-8486

RICHMOND, GLENN HICKAM, JR. 032
CAMELOT VILLAGE, J-4 A S
CHAPEL HILL 27514 919 929-4483

RICHTER, JOEL EDWARDS GE /IM 034
300 S. HAWTHORNE RD. AC
WINSTON-SALEM 27103 919 748-2810

RICHTER, RICHARD LESTER 034
1700 GRACE ST. S
WINSTON-SALEM 27103 919 722-5918

RIDDICK, GEORGE WALTON, JR. OPH 054
KINSTON CLINIC, NORTH A AC
KINSTON 28501 919 522-1611

RIDGWAY, ALTON H. AN /FP 086
RFD #3, BOX 34-I A AC
EAST BEND 27018 919 699-8283

RIEFKOHL, RONALD PS /GS 032
DUMC, DIV. OF PLASTIC SURGERY AC
DURHAM 27710 919 684-2854

RIEKER, ROBERT PAUL AN /PDC 034
510 HEARTHSIDE DR. AC
WINSTON-SALEM 27104

RIELA, ANTHONY RICHARD CHN /N 034
211 RIVERBEND DR. A P AC
BERMUDA RUN 27006 919 998-7646

RIEMAN, GILBERT FLETCHER OBG 065
2148 ECHO LANE A RT
WILMINGTON 28403 919 343-0161

RIESER, GEOFFREY DAVIS 034
2833 BIRCHWOOD DR. A R
WINSTON-SALEM 27103 919 760-3090

RIGGAN, JASPER SIMMONS, III 034
300 S. HAWTHORNE RD. A S
STUDENT BOX 537
WINSTON-SALEM 27103 919 760-1795

RIGGS, MILLARD MCADOO FP 012
105 WOODSWAY LANE A L/RT
MORGANTON 28655 704 433-1585

RILEY, DAVID LINDLEY DR 013
PO BOX 2870 A AC
P. O. BOX 3345
CONCORD 28025 704 786-0214

RILEY, JAMES CHARLES IM /GE 060
125 BALDWIN AVE. A AC
CHARLOTTE 28204 704 374-1696

RILEY, PATRICK MICHAEL AN 007
504 ALDERSON A AC
WASHINGTON 27889 919 946-5846

RILEY, WILLIAM JOSEPH GS 018
605 W. 25TH STREET AC
NEWTON 28658 704 464-5340

RIMER, BOBBY ALAN OBG 060
CHARLOTTE MEM. HOSP. A * AC
PO BOX 32861
CHARLOTTE 28232 704 331-3149

RINEHART, DAVID APGAR FP 036
9 FOREST HILL ROAD A AC
BELMONT 28012 704 825-5333

RINKER, GEORGE ERNEST PTH /IM 001
817 COLONIAL DRIVE A P AC
BURLINGTON 27215 919 584-5171

RIOPEL, DONALD AIME PDC 060
1960 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 373-1503

RIPPY, WILLIAM DENNIS FP 001
1610 VAUGHN ROAD A * AC
BURLINGTON 27215 919 226-4471

RIRIE, DOUGLAS G. 032
130 #M E. LONGVIEW A S
CHAPEL HILL 27514 919 967-0746

RISKA, PAUL FRANK 032
BOX 2733, DUMC A S
DURHAM 27710 919 383-5620

RITCH, DOUGLAS LAMAR IM 060
335 N. CASWELL ROAD A AC
CHARLOTTE 28204 704 376-4852

RITCHEY, JOHN PHILLIP OPH 026
6816 UPPINGHAM ROAD AC
FAYETTEVILLE 28306 919 484-6141

RITCHIE, HENRY JACKSON GP 013
865 CHURCH STREET, NORTH A AC
CONCORD 28025 704 786-3181

RIVERS, RUEBEN NORMAN IM 026
1738 METROMEDICAL DRIVE A AC
FAYETTEVILLE 28304 919 323-2503

RIZZUTI, RICHARD PHILIP 074
504 LANCELOT DR. A R
GREENVILLE 27834 919 756-0060

ROACH, ROBERT BURCHELL GS 014
401 MULBERRY ST. SW, STE.101 A AC
LENOIR 28645 704 758-5501

ROARK, GARY LEE 034
1106 MELROSE ST. A * S
WINSTON-SALEM 27103 919 761-1590

OARK, ROGER LEE GS 049
750 E. HARTNESS ROAD AC
STATESVILLE 28677 704 873-2516

OBACZEWSKI, DAVID L. 034
261-G DALEWOOD DR. A S
WINSTON-SALEM 27104 919 760-1643

OBB, JEFFREY WALLACE AN 074
PHYSICIANS QUADRANGLE A P AC
PITT CO. ANESTHESIA
GREENVILLE 27834 919 752-2140

OBBINS, JACK GUYES D 032
823 BROAD STREET A P * AC
DURHAM 27705 919 286-4195

OBBINS, PHILIP SLOAN P 007
TIDELAND MENTAL HLTH CTR. AC
WASHINGTON 27889 919 946-8061

OBERSON, EDWARD LEON GS 033
807 MAIN STREET A L/RT
TARBORO 27886 919 823-3035

OBERSON, GEORGE DON OTO /A 060
3535 RANDOLPH ROAD A * AC
CHARLOTTE 28211 704 365-0711

OBERSON, ROBERT STUART PH 044
305 GRIMBALL DR. A L
HAZELWOOD 28738 704 456-3662

OBERSON, VIRGIL ODELL, III AN 040
502 LINDSAY ST. A AC
PO BOX 2324
HIGH POINT 27261 919 882-2567

OBERTS, BENNIE DWAYNE 032
RT. #2, BOX 117-S A S
WARSAW 28398 919 929-3098

OBERTS, GAYLE ARLEN ON 026
509 EDINBURGH AC
FAYETTEVILLE 28303

OBERTS, HAROLD ROSS HEM 032
UNC,CLINICAL SCI BLDG. 229-H AC
CHAPEL HILL 27514 919 966-4305

OBERTS, JESSE EARLE RHU /IM 034
1425 PLAZA DRIVE A AC
WINSTON-SALEM 27103 919 768-5221

OBERTS, JOHN MILTON, JR. OBG 082
400 COOPER DRIVE AC
CLINTON 28328 919 592-1414

OBERTS, LLOYD EUGENE OBG 065
1612 DOCTOR'S CIRCLE A AC
WILMINGTON 28401 919 763-9015

OBERTS, LOUIS CARROLL U 032
3950 PLYMOUTH ROAD A L/RT
DURHAM 27707 919 489-4215

OBERTS, MARIE PH 032
BOX #7 A L/RT
BAHAMA 27503 919 477-2378

OBERTS, RICHARD SCOTT AI /PD 036
1050 X-RAY DRIVE, SUITE A AC
GASTONIA 28054 704 861-0515

OBERTS, ROY FOSTER IM /CD 011
P. O. BOX 8127 A L
ASHEVILLE 28814 704 253-6549

OBERTS, SURRY PARKER RHU /IM 092
700 RUNNYMEDE ROAD A RT
RALEIGH 27607 919 781-1274

OBERTS, THOMAS ADAMS, JR. GE /IM 060
1350 S. KINGS DR. A AC
CHARLOTTE 28207 704 372-8750

OBERTS, WILLIAM STANLEY CD /IM 060
1350 S. KINGS DR. AC
CHARLOTTE 28207 704 365-1633

OBERTSON, BRISON OAKLEY, III FP 011
5-F DOCTOR'S PARK AC
ASHEVILLE 28801 704 252-8885

OBERTSON, CHARLES G.,JR. FP /IM 086
815 ROCKFORD STREET A AC
MOUNT AIRY 27030 919 786-7107

OBERTSON, JAMES MEBANE GP 049
PO BOX 150 A L
HARMONY 28634 704 546-7587

OBERTSON, JOHN NEWTON OPH 026
P. O. BOX 30 A L/RT
FAYETTEVILLE 28303 919 485-2732

OBERTSON, JOSEPH LETCHER,JR. PTH 070
NORTH ROAD ST. A AC
ELIZABETH CITY 27909 919 335-2258

OBERTSON, KENT ALAN AN /IM 018
420 N. CENTER ST. A P AC
HICKORY 28601 704 324-3587

ROBERTSON, LEON WHITFIELD FP /OM 064
107 MEDICAL ARTS MALL * AC
ROCKY MOUNT 27801 919 443-8810

ROBERTSON, LLOYD HARVEY, JR. U 080
909 W. HENDERSON STREET A P AC
SALISBURY 28144 704 633-9441

ROBICSEK, FRANCIS TS /CDS 060
1960 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 373-1500

ROBIE, PETER WILLIAM IM 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-2085

ROBINSON, CHARLES HALL, JR. OPH 092
3900 OLD WAKE FOREST ROAD A * AC
SUITE 104
RALEIGH 27609 919 872-3242

ROBINSON, CHARLES WILSON GP 060
816 CHEROKEE RD. A L
CHARLOTTE 28207 704 333-6086

ROBINSON, JAMES ELBERT ORS 034
FORSYTH MEDICAL PARK, STE. 504 AC
WINSTON-SALEM 27103 919 768-9500

ROBINSON, JAMES THOMAS, JR. FP 040
1124 E. LEXINGTON AVENUE A AC
HIGH POINT 27262 919 882-1606

ROBINSON, LINDA MOORE FP 043
COATS MEDICAL CLINIC A AC
P. O. BOX 280
COATS 27521 919 897-6423

ROBINSON, NORMAN JEFFREY CD /IM 065
2131 S. 17TH ST. A P AC
PO BOX 9000
WILMINGTON 28402 919 343-0161

ROBINSON, SAM GS /TS 023
106 EDGEMONT DRIVE AC
KINGS MOUNTAIN 28086 704 739-4749

ROBINSON, STEPHEN CARY NS 041
200 E. NORTHWOOD, SUITE 504 A AC
GREENSBORO 27401 919 272-4578

ROBISON, WILLIAM PETERSON P 065
2023 SOUTH 17TH STREET AC
WILMINGTON 28401 919 343-0151

ROCAMORA, LEE RUSSELL IM /GE 034
2240 CLOVERDALE AVE., STE. 215 AC
WINSTON-SALEM 27103 919 725-3591

ROCHMAN, STEPHEN CHARLES U 026
513 OWEN DRIVE A AC
FAYETTEVILLE 28304 919 485-8801

ROCKWELL, DAVID ALLEN ORS 096
2701 MEDICAL OFFICE PLACE A AC
GOLDSBORO 27530 919 736-2157

ROCKWELL, WILLIAM J. K. P 032
DUKE, DEPT. OF PSYCHIATRY A P AC
DURHAM 27710 919 684-3073

RODABAUGH, KERRY J. 032
1315 MORREENE RD. APT. 23L A S
DURHAM 27705 919 847-9614

RODDEY, OLIVER FENNELL, JR. PD 060
2711--501 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 374-1736

RODGERS, THEODORE YOUNG, III ORS 083
507 W. COVINGTON STREET A AC
LAURINBURG 28352 919 276-3541

RODMAN, CLARK IM 007
615 E. 12TH STREET L/RT
WASHINGTON 27889 919 946-2101

RODWELL, ELEANOR GP 032
1118 HILLANDALE ROAD A L/RT
DURHAM 27705 919 286-1119

ROEMER, CLIFFORD ERIC DR 060
PO BOX 33549 A AC
CHARLOTTE 28233 704 371-4056

ROGERS, CHARLES STEWART IM 041
1200 N. ELM STREET AC
GREENSBORO 27401 919 379-4062

ROGERS, DAVID YORK FP /EM 011
115 1/2 MT. CARMETL RD. AC
ASHEVILLE 28806 704 253-3717

ROGERS, HOBART RAY ORS /HS 081
NORRIS-BIGGS CLINIC A AC
RUTHERFORDTON 28139 704 286-9036

ROGERS, JACK MARRELL P/N 034
BOWMAN GRAY, DEPT. OF PSY. A AC
WINSTON-SALEM 27103 919 748-3617

ROGERS, JAMES MICHAEL PD 034
3318 HEALY DRIVE A AC
WINSTON-SALEM 27103 919 765-8490

ROGERS, LARRY ARCH NS 060
1010 EDGEHILL ROAD, NORTH A AC
CHARLOTTE 28207 704 376-1605

ROGERS, NOEL BRUCE ORS 067
128 MEMORIAL DRIVE A P * AC
JACKSONVILLE 28540 919 353-4500

ROGERS, RICHARD O., JR. IM 070
BOX 724 A AC
FRANKLIN, VA 23851 919 491-2446

ROGERS, ROBERT LEE, JR OBG 014
P. O. BOX 2640 A AC
LENOIR 28645 704 758-2309

ROGERS, SEYMOUR SHULMAN GS 041
1503 ALLENDALE ROAD A L/RT
GREENSBORO 27408 919 273-6695

ROGERS, TED OPH 044
79 PARAGON PARKWAY A P AC
CLYDE 28721 704 456-9423

ROLLER, JEFFERY EARL 032
405-C MASON FARM RD. A S
CHAPEL HILL 27514 919 933-6784

ROLLINS, CHARLES DICK GP 091
507 GRANITE STREET A L
HENDERSON 27536 919 438-7263

ROLLINS, HAL JUDD, JR. OPH 041
348 N. ELM STREET A AC
GREENSBORO 27401 919 274-4626

ROLLINS, ROBERT LEROY, JR. P 092
2500 WAKE DRIVE A AC
RALEIGH 27608 919 733-5525

ROMEO, BRUNO JOSEPH IM /NM 045
501 SIXTH AVENUE, WEST A AC
HENDERSONVILLE 28739 704 693-3483

ROMM, FREDRIC JAY FP /GPM 034
BOWMAN GRAY-FAMILY MED. AC
WINSTON-SALEM 27103 919 748-2229

ROMM, WILLIAM HENRY FP 070
P. O. BOX 400 L/RT
MOYOCK 27958 919 435-6621

ROOD, MARY FRANCES MUNCH P 092
2440 SPRINGMOOR CIRCLE AC
RALEIGH 27615 919 848-7440

ROOT, JAMES HAROLD, JR. PD 026
PO BOX 367 A AC
KILMARNOCK, VA 22482

ROPER, JOHN TRACY ORS 060
2001 RANDOLPH ROAD A P AC
CHARLOTTE 28207 704 377-4907

ROSE, JOHN DAVID CD /IM 074
1800 W. 5TH ST., #2 AC
GREENVILLE 27834 919 752-3185

ROSE, RICHARD PHILLIP ORS 034
FORSYTH MEDICAL PARK, STE. 504 AC
WINSTON-SALEM 27103 919 768-9500

ROSEN, RICHARD JAMES IM /HEM 041
1032 PROFESSIONAL VILLAGE AC
GREENSBORO 27401 919 273-9758

ROSEN, ROBERT DEAN FP /EM 034
147 COLUMBINE DRIVE A AC
WINSTON-SALEM 27106 919 722-9535

ROSENBERG, ERIC RONALD DR 065
1924 S. LIVE OAK PARKWAY A AC
WILMINGTON 28403 919 762-3882

ROSENBERG, JOEL BENJAMIN IM 011
445 BILTMORE CENTER, STE. 305 A AC
ASHEVILLE 28801 704 253-1482

ROSENBERG, MARK ROBERT 032
BOX 2841, DUMC A S
DURHAM 27710 919 493-2846

ROSENBERG, STANLEY JOSEPH AN 041
PO BOX 10373 AC
GREENSBORO 27404 919 379-4092

ROSENOW, PHILIP JOHN OBG 001
1616 MEMORIAL DR. AC
BURLINGTON 27215 919 226-8817

ROSENSTEIN, BYRON DAVID ORS 032
205 NORTHWOOD DR. A R
CHAPEL HILL 27514 919 942-4209

ROSS, ALLAN OBG 041
408 PARKWAY A AC
GREENSBORO 27401 919 378-1110

ROSS, ARTHUR J., III PDS 000
34TH ST. & CIVIC CENTER BLVD. A AC
PHILADELPHIA, PA 19104 215 596-9375

ROSS, DAVID B. ORS 040
624 QUAKER LN. STE. D-200 AC
HIGH POINT 27262 919 841-6262

ROSS, DONALD MACCONNELL GS 001
1610 VAUGHN ROAD A L/RT
BURLINGTON 27215 919 226-8416

ROSS, JAMES MILLER FP 018
P. O. BOX 490 A AC
CLAREMONT 28610 704 459-7324

ROSS, JOHN MARION OBG 045
630 FIFTH AVENUE, WEST AC
HENDERSONVILLE 28739 704 692-2258

ROSS, OTHO B., JR. IM 060
3022 FERNCLIFF RD. A L/RT
CHARLOTTE 28211 704 366-7820

ROSS, ROBERT MITCHELL AI 034
1365 WESTGATE CENTER DR.#G-1 P AC
WINSTON-SALEM 27103 919 768-0914

ROSS, THOMAS EDGAR FP 077
P. O. BOX 1827 A P AC
ROCKINGHAM 28379 919 895-5253

ROSS, WILLIS RICHARD FP 084
320 YADKIN STREET A AC
ALBEMARLE 28001 704 982-9144

ROSSER, GEORGE THOMAS R 013
1925 TRILLIUM LANE A AC
CHARLOTTE 28211 704 786-0214

ROSTAN, STEPHEN EDWIN D/DMP 063
P. O. BOX 669 A P * AC
PINEHURST 28374 919 295-5567

ROSTAND, ROBERT ALTON IM /PUD 040
624 QUAKER LANE, STE. B211 A AC
HIGH POINT 27262 919 889-1496

ROTHSTEIN, MANFRED SHELDON D 026
1308 MEDICAL DRIVE A * AC
FAYETTEVILLE 28304 919 323-2227

ROUFAIL, WALTER MICHEL GE /IM 034
1901 S. HAWTHORNE RD., #310 A AC
WINSTON-SALEM 27103 919 760-4340

ROUNDS, JOHN CARSON 074
104 CHESTERFIELD CT., #26 A * S
GREENVILLE 27834 919 355-7427

ROUSE, JAMES BRISTOL PD /N 032
306 S. GREGSON STREET A AC
DURHAM 27701 919 688-6349

ROUSE, JOHN LAWRENCE, III FP 082
403 FAIRVIEW ST. AC
CLINTON 28328 919 592-6011

ROVERE, GEORGE DAVITTO ORS 034
300 S. HAWTHORNE ROAD A AC
WINSTON-SALEM 27103 919 748-3946

ROWE, CHARLES EUGENE, JR. U 040
624 QUAKER LANE, SUITE D-100 A AC
HIGH POINT 27262 919 886-5151

ROWE, CHARLES ROY, JR. GS 049
750 HARTNESS ROAD AC
STATESVILLE 28677 704 873-3929

ROWE, CHARLES THOMAS DR 011
DOCTOR'S BLDG. STE. 103 * AC
PO BOX 2959
ASHEVILLE 28802 704 254-4617

ROWE, WILLIAM THOMAS RHU /IM 041
1511 WESTOVER TERRACE AC
GREENSBORO 27408 919 378-1461

ROWLAND, MICHAEL CLARK GS 063
P. O. BOX 2000 A P AC
PINEHURST 28374 919 295-2232

ROY, RAYMOND CLYDE AN 034
454 WESTOVER AVENUE A * AC
WINSTON-SALEM 27104 919 748-4498

ROYAL, BILLY WILLIAMSON P 032
P. O. BOX 2387 A P * AC
CHAPEL HILL 27514 919 733-5540

ROYAL, DONNIE MARTIN GP 082
BOX 156 A * L
SALEMBURG 28385 919 525-4538

ROYAL, PHILIP WAYNE 032
RT. #1, BOX 323-E A S
CHAPEL HILL 27514

ROYSTER, CHAUNCEY LAKE IM 092
1801 MCDONALD LANE A L/RT
RALEIGH 27608 919 832-0796

ROZAKIS, GEORGE WILLIAM 032
2 ABINGDON WAY A R
DURHAM 27707 919 544-7906

ROZEAR, MARVIN PRICE N 032
BOX 3849, DUKE UNIV. MED. CTR. A AC
DURHAM 27710 919 684-8111

ROZEMA, THEODORE CARL GPM 075
220 HUNTING COUNTRY ROAD AC
TRYON 28782 803 457-4141

ROZIER, JOHN CHARLES, JR. OBG 078
4300 FAYETTEVILLE ROAD A AC
LUMBERTON 28358 919 738-9601

RUARK, ROBERT JAMES OBG 092
525 WADE AVENUE, APT. #51 A L/RT
RALEIGH 27605 919 832-4722

RUBIN, MICHAEL HOTELLING GE /IM 034
1830 S. HAWTHORNE ROAD AC
WINSTON-SALEM 27103 919 765-0463

RUBIN, RICHARD BENNETT P 067
ST. MARGARET'S HOSPITAL A AC
P.O. DRAWER 311
MONTGOMERY, AL 36195

RUCKER, WILLIAM L. GS 074
10 DOCTOR'S PARK A * AC
GREENVILLE 27834 919 758-1747

RUDD, EUGENE GREGORY OBG 059
PO BOX 1413 AC
MEDICAL COURT SOUTH
MARION 28752 704 652-3019

RUDISILL, ELBERT ANDREW, JR. FP 018
133 FIRST AVE., SE A AC
HICKORY 28601 704 322-5915

RUFFIN, MACK THOMAS, IV FP 034
3112 GEORGIA AVE. S. A R
ST. LOUIS PARK, MN 55426

RUFTY, ALFRED JACKSON, JR. CD /IM 034
BOWMAN GRAY, DEPT. OF MED. A AC
WINSTON-SALEM 27103 919 748-4469

RUIZ, FERNANDO REY P/GER 092
4096 BARRETT DR. AC
RALEIGH 27609 919 832-7606

RUMLEY, RICHARD LEE IM /ID 074
DEPT. OF MEDICINE A AC
ECU SCHOOL OF MEDICINE
GREENVILLE 27834 919 551-2550

RUNGE, JEFFREY WILLIAM EM 060
PO BOX 32861 A AC
CHARLOTTE 28232 704 331-3181

RUPPENTHAL, C. ROBERT, JR. IM /HEM 060
1350 S. KINGS DRIVE A AC
CHARLOTTE 28207 704 372-8750

RUSKIN, JEROME CD 041
1904 N. CHURCH STREET A AC
GREENSBORO 27405 919 274-3241

RUSS, DONALD JAMES IM 060
3535 RANDOLPH ROAD A AC
CHARLOTTE 28211 704 365-0760

RUSSELL, DAVID NORMAN 090
MARSHVILLE MED. CTR. A P AC
OLD HIGHWAY 74
MARSHVILLE 28103 704 624-6688

RUSSELL, DOUGLAS MACARTHUR GS 096
304 GLEN OAK DRIVE A P * AC
GOLDSBORO 27530 919 734-5010

RUSSELL, EUGENE FAIRCHILD,III OBG 041
1309 N. ELM STREET A AC
GREENSBORO 27401 919 273-2563

RUSSELL, JEFFREY KENT DIA /END 011
445 BILTMORE CENTER, STE. 302 A * AC
ASHEVILLE 28801 704 253-6812

RUSSELL, JOHN HUNTER CD 011
14 MCDOWELL ST. AC
ASHEVILLE 28801 704 254-8054

RUSSELL, JOSEPH DWIGHT IM /NEP 098
1700 S. TARBORO ST. A AC
WILSON 27893 919 291-1300

RUSSELL, PHILIP EVERITT IM /PUD 011
204 DOCTOR'S BUILDING A AC
ASHEVILLE 28801 704 253-9371

RUSSELL, ROGER BIVINS PS /GS 092
2501 NORTH ST., STE. 500 A AC
RALEIGH 27607 919 782-7762

RUSSELL, SHAWN ELAINE P 032
IBM, BOX 12195 A P AC
RESEARCH TRIANGLE PK 27709 919 543-5511

RUSSELL, WILLIAM MICHAEL R/NM 070
P. O. BOX 250 A AC
ELIZABETH CITY 27909 919 335-0531

RUSSELL, WILSON GLOVER PTH 034
FORSYTH MEM HOSP-PTH A AC
WINSTON-SALEM 27103 919 773-3840

RUST, CARL KING, II GE /IM 065
1202 MEDICAL CENTER DR. A AC
WILMINGTON 28401 919 341-3300

RUSTAD, TODD J. 032
1315 MORREENE RD. APT. 271 A S
DURHAM 27705 919 383-5828

RUTH, WAYNE KIMBERLY PUD /IM 001
1214 VAUGHN RD. STE. A AC
BURLINGTON 27215 919 229-4441

RUTHERFORD, EDMUND GS 000
2131 S. 17TH ST. A R
WILMINGTON 28401 919 343-7000

RUTLEDGE, JOHN HOYLE, III OBG 023
105 GROVER ST. AC
SHELBY 28150 704 482-2486

RUTLEDGE, MARY LOUISE PD 060
2157 NORTON ROAD L/RT
CHARLOTTE 28207 704 334-9218

RYAN, ALBERT OLEN, JR. OM 088
P. O. BOX 200 A AC
PISGAH FOREST 28768 704 877-2806

RYAN, W. JAMES,II P 001
723 EDITH STREET AC
BURLINGTON 27215 919 227-0126

RYAN, WILLIAM SCOTT PD 078
103 W. 27TH ST. AC
LUMBERTON 28358 919 739-3318

RYBURN, SAMUEL BENJAMIN PD 098
WILSON CLINIC A AC
WILSON 27893 919 291-7001

RYDEN, JANICE BETH 034
300 S. HAWTHORNE RD. A S
STUDENT BOX 543-BOWMAN GRAY
WINSTON-SALEM 27103 919 748-1783

RYMUZA, JEFFREY IM /PUD 049
PO BOX 1460 A AC
OLD MOCKSVILLE RD.
STATESVILLE 28677 704 878-2011

SAAD, MAGED HANNA P/GP 092
3010 FALSTAFF ROAD AC
RALEIGH 27610 919 821-0300

SABISTON, DAVID COSTON, JR. GS /TS 032
DUKE UNIV. MED. CTR. A AC
DURHAM 27710 919 684-2831

SABISTON, FRANK, JR. GS /TS 054
KINSTON CLINIC, NORTH A AC
BOX 1316
KINSTON 28501 919 522-1626

SABISTON, WALTER ROBERTS OTO 054
KINSTON CLINIC,NORTH, STE. K A P * AC
KINSTON 28501 919 523-0687

SACCO, RUSSELL JOHN IM 045
506 PARK HILL COURT A * AC
HENDERSONVILLE 28739 704 692-3538

SACRINTY, NICHOLAS WILLIAM IM /GE 079
608 LINDEN DR. AC
EDEN 27288 919 623-9794

SAENGER, PAUL JAY ORS 011
129 MCDOWELL ST. A AC
ASHEVILLE 28801 704 258-8800

SAFIR, ARAN OPH 063
2170 MIDLAND ROAD A AC
SOUTHERN PINES 28387 919 295-2100

SAFRAN, MARC RAYMOND 032
BOX 2769, DUMC A S
DURHAM 27710 919 383-4055

SAGBERG, ANNE ELISABETH P 011
343 BARNARD AVENUE A AC
ASHEVILLE 28804 704 254-3201

SAHBA, MEHRDAD MAJDZADEH GE /IM 032
306 S. GREGSON STREET A AC
DURHAM 27701 919 682-5561

SALAMEH, KAMAL B. PD /GP 054
2415 W. VERNON AVE. AC
KINSTON 28501 919 522-1261

SALDANHA, RITA LOUIS NPM /PD 074
213 WOODHAVEN ROAD AC
GREENVILLE 27834 919 551-4684

SALEEBY, RICHARD GEORGE CRS 092
3801 COMPUTER DRIVE A P AC
RALEIGH 27609 919 787-2542

SALIBA, CONSTANTIN GS 026
3318 MELROSE ROAD A AC
FAYETTEVILLE 28304 919 323-0280

SALISBURY, KENT WILLIAM CD /IM 011
14 MCDOWELL STREET A AC
ASHEVILLE 28801 704 254-8054

SALLE, GEORGE FREDERIC U 074
1703 W. SIXTH STREET A L
GREENVILLE 27834 919 752-2507

SALLEE, D. SKIP 032
BOX 3808, DUMC * R
DURHAM 27710 919 383-6548

SALLEY, BRUNSON MARTIN FP 060
PO BOX 18248 A AC
CHARLOTTE 28218 704 537-0020

SALMON, ROBERT BRUCE R 060
3535 RANDOLPH RD. A AC
CHARLOTTE 28211 704 338-2270

SALTER, TERESA PALMER PD 092
101 W. DURHAM ROAD AC
CARY 27511 919 467-5543

SALTON, RUSSELL ARTHUR,III FP 060
1618 E. MOREHEAD ST. AC
CHARLOTTE 28207 704 523-1157

SALTZMAN, HERBERT AARON PUD /A 032
BOX 3823, DUMC A AC
DURHAM 27710 919 684-4149

SALVAGGIO, MARK ANTHONY GS /VS 090
900 SUNSET DR. A AC
MONROE 28110 704 289-2561

SAMPSON, JOSEPH LUTHER, JR. PS /GS 065
346 SHANDY LANE A AC
WILMINGTON 28401 919 343-9774

SAMUELS, WALTER RAY OBG 060
150 PROVIDENCE ROAD A AC
CHARLOTTE 28207 704 377-0461

SANCHEZ, CLARE JEANNE GER /IM 092
3000 NEW BERN AVE. A AC
WAKE AHEC MED. TEACHING SERV.
RALEIGH 27610 919 755-8520

SANCHEZ, RAFAEL CAMILO FP /ADL 074
P. O. BOX 1846 A AC
GREENVILLE 27835 919 551-2608

SANDBORN, WILLIAM DEAL GS 045
P. O. BOX 5400 AC
FLETCHER 28732 704 687-1418

SANDERFORD, JAMES LYON, JR. DR /NM 034
3155 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27103 919 773-3874

SANDERS, GEO. HERBERT SUMNER 032
119 F-4 FIDELITY ST. A S
CARRBORO 27510 919 942-0546

SANDERS, JAMES ALLEN ORS 036
902-E COX ROAD A P AC
GASTONIA 28052 704 867-2333

SANDERS, JAMES HENRY, JR. FP /GER 088
P. O. BOX 389 A AC
BREVARD 28712 704 884-9362

SANDERS, LEE HYMAN PD 092
2502 ANDERSON DRIVE L/RT
RALEIGH 27608 919 787-9888

SANDLER, ROBERT SAMUEL GE 032
UNC, 423 CLINICAL SCI. 229-H AC
CHAPEL HILL 27514 919 966-2511

SANDRIDGE, DAVID ALLEN OBG 011
50 DOCTORS DR. #120 W.ANNEX A AC
ASHEVILLE 28801 704 255-8900

SANDY, ROBERT EUGENE R 007
608 E. 12TH STREET A AC
WASHINGTON 27889 919 946-2137

SANFILIPPO, ALFRED PAUL PTH /IG 032
3315 STONEYBROOK DRIVE A AC
DURHAM 27705 919 684-2482

SANFORD, WILLIAM GORDON OM /IM 034
440 FRIAR TUCK RD. A AC
WINSTON-SALEM 27104

SANKAR, SEEPLAPUTHUR G. GS /CDS 001
1610 VAUGHN RD. A AC
BURLINGTON 27215 919 226-3417

SANTOSO, RUDY ADRIAN N 018
ROUTE #3, BOX 331 A AC
HICKORY 28601 704 324-4143

SAPPENFIELD, DAVID LUTHER OPH 000
5207 S. W. 86TH TERRACE A P R
GAINESVILLE, FL 32608 904 392-3111

SAPPENFIELD, LUTHER COOK, JR. OPH 026
1629 OWEN DRIVE AC
FAYETTEVILLE 28304 919 484-6141

SARAZEN, PAUL MARK, JR. PD 023
101 GROVER STREET A AC
SHELBY 28150 704 482-1435

SARDI, CARL ANTHONY OTO /A 041
7100 BETHLEHEM CHURCH RD. A L
CLIMAX 27233 919 674-2509

SARGENT, WINSTON ARTHUR Y. GP 061
37 SUMMIT ST. A L/RT
BURNSVILLE 28714

SASIN, ILONA BRANDT FP /OM 034
714 KEIGHTLY COURT AC
WINSTON-SALEM 27104 919 784-2476

SASSER, PATRICK HENRY GP 096
100 E. LOCKHAVEN DRIVE A AC
GOLDSBORO 27530 919 734-2924

SATHER, RANDALL KENNETH R 032
1901 HILLANDALE ROAD AC
DURHAM 27705 919 383-9407

SATO, TAKAO LEWIS IM 034
6730 AMBERLEY LN. A R
CLEMMONS 27012 919 766-9505

SATTERFIELD, BENTON SAPP OBG 092
3126 BLUE RIDGE RD. P AC
RALEIGH 27606 919 782-3865

SATTERFIELD, G. HOWARD, JR. OBG 074
DOCTOR'S PARK, BUILDING #5 AC
GREENVILLE 27834 919 758-5246

SATTERLY, ROBERT ALAN OTO 098
WILSON CLINIC A AC
WILSON 27893 919 291-7001

SATTERWHITE, WILLIAM M. OTO /HNS 034
1420 PLAZA DRIVE A * AC
WINSTON-SALEM 27103 919 765-4922

SATTLER, RAYMOND LOUIS NS 026
3314 MELROSE RD., APT. 104 A P AC
FAYETTEVILLE 28304 919 738-7146

SAUNDERS, CHARLES LAWRENCE,JR. GYN 001
523 WILDWOOD LN. A L/RT
BURLINGTON 27215

SAUNDERS, JAY FRED FP 008
BOX 309 AC
AULANDER 27805 919 345-3791

SAUNDERS, WADE HAMPTON,III CD 011
14 MCDOWELL STREET AC
ASHEVILLE 28801 704 254-8054

SAUTER, SUZANNE VAN HOUTEN RHU /IM 032
UNC, TRAILER 33, 307-H AC
CHAPEL HILL 27514 919 966-5164

SAVARESE, CHARLES JOSEPH, JR. FP /CD 010
P. O. BOX 1948 A * AC
SHALLOTTE 28459 919 754-8105

SAVIDGE, THOMAS OLIVER IM /CD 083
601 LAUCHWOOD DR. A AC
LAURINBURG 28352 919 276-7727

SAVITT, MICHAEL ANDREW 032
3702 CHIMNEY RIDGE PL. A S
DURHAM 27713 919 286-1989

SAVORY, PAUL BORRODAILE R 011
78 FOREST RD. AC
ASHEVILLE 28803 704 274-3628

SAWHNEY, DEEPAK 032
4 GOOSENECK CIRCLE A S
CHAPEL HILL 27514 919 968-1747

SAWYER, CHARLES GLENN CD /IM 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4462

SAWYER, CHARLES JUDSON, III FP 008
MEDICAL ARTS CTR., ACADEMY ST. AC
AHOSKIE 27910 919 332-3548

SAWYER, JOHN WILSON IM 041
609 WALTER REED DRIVE A AC
GREENSBORO 27403 919 299-2815

SAWYER, THOMAS R. OPH 063
PO BOX 2445 A * AC
PINEHURST 28374 919 295-2100

SAWYER, TIMOTHY T. D 001
1522 VAUGHN RD. A * AC
BURLINGTON 27215 919 226-9393

SAXE, JESSICA SCHORR FP 060
2216 DILWORTH ROAD, WEST AC
CHARLOTTE 28203 704 338-3084

SAYERS, DANIEL GARVIN EM 034
2804 MONTCLAIR ROAD A AC
WINSTON-SALEM 27106 919 748-4625

SAYERS, WILLIAM FLOYD PD 034
3318 HEALY DRIVE A AC
WINSTON-SALEM 27103 919 765-8490

SCANLAN, JAMES GEORGE CD /IM 092
3400 EXECUTIVE DR., STE. 201 A P AC
RALEIGH 27609 919 872-8920

SCARANTINO, CHARLES WALTER TR 074
RADIATION ONCOLOGY CTR. A AC
ECU SCHOOL OF MEDICINE
GREENVILLE 27834 919 551-2900

SCARBOROUGH, CHARLES F.,JR. GP 062
PO BOX 159 A AC
STAR 27356 919 428-2144

SCARBOROUGH, DAWSON EMERSON PTH 092
WAKE CO. MED. CTR.,-PATH. A AC
RALEIGH 27610 919 755-8260

SCARBOROUGH, WALTER AVERY, JR. P 092
1004 DRESSER COURT, STE. 101 AC
RALEIGH 27609 919 876-0090

SCARFF, JOHN EDWIN, JR. U/GS 082
603 BEAMAN ST. A AC
CLINTON 28328 919 592-7129

SCATLIFF, JAMES HOWARD R 032
N. C. MEMORIAL HOSPITAL A AC
CHAPEL HILL 27514 919 966-4238

SCHAAF, ROBERT EDMUND DR 092
WAKE RADIOLOGY CONSULTANT A AC
P. O. BOX 19366
RALEIGH 27619 919 787-8199

SCHAAL, JENNIFER CAROL OBG 41
1507 WESTOVER TERR. STE. C A AC
GREENSBORO 27408 919 273-0936

SCHAFERMEYER, ROBERT WM. EM /PD 060
CHARLOTTE MEM. HOSPITAL * AC
P. O. BOX 32861
CHARLOTTE 28232 704 338-3181

SCHALL, STEWART ALLAN PDC /PD 041
1200 N. ELM ST. AC
GREENSBORO 27401 919 379-4060

SCHARF, FORREST LARRY CLP /NM 096
WAYNE CO. MEM. HOSP. AC
CALLER BOX 8001
GOLDSBORO 27530 919 735-1530

SCHARYJ, MODESTO PTH 034
BOWMAN GRAY, DEPT. OF PATH. A AC
WINSTON-SALEM 27103 919 748-2632

SCHECTER, NANCY POST N 092
3320 EXECUTIVE DRIVE A AC
RALEIGH 27609 919 872-0940

SCHEIL, CHARLES DAVID 032
24-F STRATFORD HILLS A S
CHAPEL HILL 27514 919 967-4308

SCHEIL, CHARLES PHILIP FP 014
P. O. BOX 960 AC
LENOIR 28645 704 754-0541

SCHERER, IRVIN GEORGE FP 049
P. O. BOX 7 A AC
UNION GROVE 28689 704 539-4731

SCHERER, JAMES LEROY R/DR 034
3155 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27103 919 773-3874

SCHIEBEL, HERMAN MAX GS /TS 032
1020 ANDERSON ST. A L
DURHAM 27705 919 489-5109

SCHIESS, ROBERT JOHN, III NS 025
2713 NEUSE BOULEVARD A P AC
NEW BERN 28560 919 633-6070

SCHILLER, HERBERT MILES PTH /CLP 034
2570 EMPIRE DR. AC
WINSTON-SALEM 27103 919 760-4620

SCHKOLNE, BENZION AN 034
300 BEECHCLIFF COURT A AC
WINSTON-SALEM 27104 919 765-9091

SCHLASEMAN, GUY W. R 032
3643 N. ROXBORO ST. AC
DURHAM 27704 919 471-3411

SCHLOSSMAN, DAVID MICHAEL IM /ON 032
BOX 3843, DUMC A AC
DURHAM 27710 919 684-4385

SCHMALTZ, ROBERT ANDREW 032
604 W. KNOX ST. A S
DURHAM 27701 919 383-5972

SCHMID, HERMAN ERNEST, JR. FP /GP 034
147 COLUMBINE DR. A P AC
WINSTON-SALEM 27106 919 722-9535

SCHMIDT, CARL JACOB OM 065
GENERAL ELECTRIC CO. A AC
P.O.BOX 780, M/C B06
WILMINGTON 28401 919 343-5320

SCHMIDT, EVELYN PD /PH 032
1301 FAYETTEVILLE STREET A AC
DURHAM 27707 919 683-1316

SCHMITT, PHILIP JULIAN P/CHP 018
PO BOX 9149 A AC
HICKORY 28603 704 327-7888

SCHMITT, RAYMOND FRANCIS, JR. CHP /P 032
215-A RIVER TRAIL A AC
RIVERVIEW APTS.
MORGANTON 28655

SCHMITTER, KARL JOSEPH GS /HNS 036
902 COX RD., STE. C A AC
GASTONIA 28054 704 864-7821

SCHNEE, CHARLES FREDERICK GS /FP 025
290 SHORELINE DRIVE A AS
NEW BERN 28560 919 638-2962

SCHNELL, EDWARD WALTER OPH 063
1902-D N. SANDHILLS BLVD. A P AC
ABERDEEN 28315 919 692-4468

SCHOEN, WALTER OBG 060
1350 S. KINGS DR. AC
CHARLOTTE 28207 704 372-8750

SCHOLL, GEORGE KENNETH, JR. U 060
1012 KINGS DR., STE. 806 A AC
CHARLOTTE 28283 704 334-6449

SCHROETER, THOMAS ANTHONY 034
1008 S. HAWTHORNE RD. A S
WINSTON-SALEM 27103 919 723-3633

SCHUG, JOHN BUTLER OBG 060
3535 RANDOLPH ROAD, SUITE 105 A AC
CHARLOTTE 28211 704 364-1041

SCHULHOF, LARY ALAN NS 011
7 MCDOWELL STREET A AC
ASHEVILLE 28801 704 255-7776

SCHULTEN, HERBERT JOHN ORS 018
912 SECOND ST. NE A AC
HICKORY 28601 704 324-2800

SCHULTZ, JOHN LOESCH DR /NM 034
3155 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27103 919 760-5948

SCHUMACHER, DONALD IM 060
335 N. CASWELL ROAD A * AC
CHARLOTTE 28204 704 376-4852

SCHUMACK, EDWARD JAMES P/FP 092
PO BOX 16125 A P AC
RALEIGH 27610 919 839-8570

SCHUPBACH, CURTIS WAYNE D 060
1350 S. KINGS DRIVE AC
CHARLOTTE 28207 704 372-8750

SCHURTER, LONIS LEON LM 092
505 NORTHWOOD CIRCLE A RT
GARNER 27529 919 772-3363

SCHUSTER, STEPHEN BARBER AN 041
1816 PEMBROKE RD., STE. #2 A AC
GREENSBORO 27408 919 272-3720

SCHUTTE, HAROLD DELANO PD 011
53 S. FRENCH BROAD AVE. A AC
ASHEVILLE 28801 704 258-0969

SCHWARTZ, EARL EM 034
3465 DIXIANA LANE A AC
PFAFFTOWN 27040 919 748-4625

SCHWARTZ, JARED NAPHTALI PTH 060
P. O. BOX 33549 A * AC
CHARLOTTE 28233 704 371-4814

SCHWARTZ, ROBERT PAUL PD /PDE 060
CHARLOTTE MEM. HOSP. A AC
P. O. BOX 32861
CHARLOTTE 28232 704 338-3156

SCHWARTZBERG, MARC SCOTT 032
6-A ESTES PARK APTS. A S
CARRBORO 27510 919 967-8034

SCHWARZ, RONALD PAUL GE /IM 092
3521 HAWORTH DR. * AC
RALEIGH 27609 919 782-1806

SCHWEIZER, DONALD CONRAD GYN 041
1517 N. CHURCH ST. A AC
GREENSBORO 27405 919 379-8460

SCHWILM, ARLEN LEE D 060
3535 RANDOLPH ROAD, SUITE 101 A AC
CHARLOTTE 28211 704 364-6110

SCHWINN, DEBRA ANNE AN 032
BOX 3094, DUMC A R
DURHAM 27710 919 493-3168

SCHYMIK, LINDA GLAUBITZ PTH 060
6913 HUNTFIELD DR. A AC
MATTHEWS 28105 704 362-0448

SCOTT, ALAN FULTON FP 080
P. O. BOX 63 A AC
SALISBURY 28144 704 636-5431

SCOTT, CHARLES KIMREY PD /ADL 001
530 W. WEBB AVENUE * AC
BURLINGTON 27215 919 228-8316

SCOTT, CHARLES MATTHEW GS /CDS 065
543 MASONBORO SOUND RD. AC
WILMINGTON 28403 919 763-6289

SCOTT, CORIDALIA WALD PTH 041
2803 LAKE FOREST DR. A AC
GREENSBORO 27408 919 854-6455

SCOTT, DEBORAH ANNETTE PD 060
1012 KINGS DR. STE. 1024 AC
CHARLOTTE 28283 704 376-0884

SCOTT, DIANNE LYNNETTE AN 032
BOX 3094, DUMC AC
DURHAM 27710 919 684-3239

SCOTT, EDWIN HUGHES 032
99 MAXWELL ROAD A S
CHAPEL HILL 27514 919 942-3115

SCOTT, HARRY WHITE D 092
3900 BROWNING PL.,STE. 202 * AC
RALEIGH 27609 919 782-2735

SCOTT, JACKSON VANCE FP /IM 036
101 W. CATAWBA AVENUE A * AC
MOUNT HOLLY 28120 704 827-3014

SCOTT, JOHN LAYNE DR /NM 041
2803 LAKE FOREST DR. A AC
GREENSBORO 27408 919 855-8972

SCOTT, LEGRAND THURMAN, JR. FP 077
1102 CAROLINA DRIVE AC
ROCKINGHAM 28379 919 895-9901

SCOTT, LINCOLN BAIN ADL 032
UNC STUDENT HEALTH SERVICE AC
CHAPEL HILL 27514

SCOTT, ROBERT BAIRD FP 076
132-A W. MILLER STREET A AC
ASHEBORO 27203 919 625-1360

SCOTT, SAMUEL EDWIN FP 001
ROUTE #2, BOX 159 A AC
BURLINGTON 27215 919 421-3247

SCOTT, STEVEN MARTIN OBG /EM 032
3711 STONEYBROOK DR. A AC
DURHAM 27705 919 383-0355

SCOVIL, JAMES A., JR. CD /IM 092
4021 BARRETT DR. A P AC
RALEIGH 27609 919 782-1550

SCUDERI, PHILLIP EDWARD AN 034
1728 BUENA VISTA RD. A AC
WINSTON-SALEM 27104 919 773-3180

SCULLY, KEVIN SLEAN ORS 065
1616 MEDICAL CENTER DR. A AC
WILMINGTON 28401 919 762-2655

SEAGLE, LEE MARCUS, JR. FP 018
133 FIRST AVENUE, S.E. A AC
HICKORY 28601 704 322-5915

SEALS, DANIEL HILTON IM 011
9 BOTANY VIEW COURT AC
ASHEVILLE 28805 704 298-3907

SEALY, WILL CAMP TS /CDS 032
777 HEMLOCK ST., BOX 6000 A L
MACON, GA 31208 912 744-1000

SEARS, VICTOR W., JR. 034
206 OAKWOOD CT. A S
WINSTON-SALEM 27103 919 760-1643

SEATON, KAREN GIPSON IM /END 032
59 POLKS LANDING A S
CHAPEL HILL 27514 919 933-9515

SEAY, HILLIS LEDBETTER GP 060
PO BOX 528 A * L
HUNTERSVILLE 28078 704 875-6946

SECOSAN, CRAIG JOHN OPH 050
PO BOX 517 A P AC
SYLVA 28779 704 586-2120

SECREST, ALVIN JACKSON, JR. U 023
1001 N. WASHINGTON STREET A AC
SHELBY 28150 704 482-2011

SEDDON, JENNIFER LYNN FP 043
RT. 4, BOX 630 A AC
DUNN 28834 919 892-2103

SEDDON, JOHN MICHAEL U 043
714 TILGHMAN DR. A AC
DUNN 28334 919 892-1068

SEDWITZ, JOSEPH LEE GS /GYN 092
231 HOSPITAL ROAD A AC
ZEBULON 27597 919 269-9310

SEEAR, TORBEN GYN 036
938 PARAMOUNT CIRCLE A L/RT
GASTONIA 28052 704 864-7935

SEEMAN, BRIAN ANDREW AN 043
702 TILGHMAN DR. A AC
DUNN 28334 919 892-9261

SEEN, NELSON DEN 034
1641-S NORTHWEST BLVD. A S
WINSTON-SALEM 27104 919 725-9247

SEGRETI, EILEEN MARIE 032
538 FINLEY ST. A S
DURHAM 27705 919 383-7558

SEHGAL, NARINDER NATH OBG 074
ECU DEPT. OF OB-GYN AC
GREENVILLE 27858 919 551-4622

SEHGAL, PRAGNA NINA FP 074
ECU DEPT. OF FAMILY MED. A AC
PO BOX 1846
GREENVILLE 27835 919 551-2059

SEIDEL, MURRAY KAYE ORS 065
1222 MEDICAL CENTER DRIVE A AC
WILMINGTON 28401 919 763-2977

SEIGLER, HILLIARD FOSTER GS 032
BOX 3966, DUMC A AC
DURHAM 27710 919 684-3942

SEIGMAN, EDWIN LINCOLN DR 064
105 BUNN DRIVE L
ROCKY MOUNT 27804 919 443-2044

SEIGNIOUS, DAVID WAYNE IM 065
1117 WOODHAVEN DR. A R
CHARLESTON, SC 29407

SEITTER, DELLMER B., III 074
201 PINERIDGE DR. A S
GREENVILLE 27834 919 551-3384

SELF, JERRY LEE DR 081
PO BOX 886 A * AC
217 W. SECOND ST.
RUTHERFORDTON 28139 704 287-2984

SELLE, JAY GREGORY TS /CDS 060
1960 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 373-1500

SELLERS, BOBBY EUGENE P 092
3900 BROWNING PLACE AC
RALEIGH 27609 919 787-7125

SELLERS, FRANK BARKLEY ORS 013
PO BOX 1606 A AC
CONCORD 27026 704 788-3155

SELLERS, PHILLIP ALAN IM 045
510 7TH AVENUE, WEST A * AC
HENDERSONVILLE 28739 704 692-2231

SELMAN, RICHARD DAVID P 011
HIGHLAND HOSPITAL A * AC
P. O. BOX 1101
ASHEVILLE 28802 704 254-3201

SELTZER, STEPHEN CHARLES FP 084
320 YADKIN STREET A AC
ALBEMARLE 28001 704 982-9144

SEMANS, JAMES HUSTEAD U 032
DUKE UNIV. MED. CTR. A L
DURHAM 27710 919 684-2744

SENAY, BRUCE ALAN U 054
KINSTON CLINIC NORTH A AC
KINSTON 28501 919 527-3043

SENIOR, ROBERT JOSEPH ADL 032
500 EASTOWNE DR., SUITE 201 AC
CHAPEL HILL 27514 919 929-3471

SENTER, RICHARD GORDON RHU /IM 060
1350 KINGS DRIVE A AC
CHARLOTTE 28207 704 372-8750

SENTER, WILLIAM JEFFRESS IM 092
704 W. JONES STREET A AC
RALEIGH 27603 919 832-5125

SERAFIN, DONALD PS /GS 032
DUMC-PLASTIC SURGERY A AC
DURHAM 27710 919 684-3347

SERENE, JAMES WILLIAM ORS 049
141 N. KELLY STREET A P * AC
STATESVILLE 28677 704 872-7492

SERENE, MARY BRUCE MCKENZIE AN 049
141 N. KELLY STREET A P * AC
STATESVILLE 28677 704 873-5661

SERFAS, DAVID HILL CD 011
14 MCDOWELL ST. AC
ASHEVILLE 28801 704 254-8054

SERVOSS, RONALD LEE AN 050
P. O. BOX 984 AC
SYLVA 28779 704 586-8941

SERVOSS, SUE ANNE BOYNTON FP /PH 050
P. O. BOX 984 AC
SYLVA 28779 704 586-4083

SESSIONS, JOHN TURNER, JR. GE /IM 032
UNC,324 CLINICAL SCI. 229-H A AC
CHAPEL HILL 27514 919 966-2511

SESSIONS, RICK PAUL 032
210 WESTBROOK DR. A S
CARRBORO 27510 919 933-5880

SESSOMS, RODNEY KEVIN
1016 B WESTOVER DRIVE S
GREENVILLE 27834 919 830-1453

SETHI, SHASHI K. OPH 041
111 W. WENDOVER AVE. A AC
GREENSBORO 27401 919 275-5673

SEVERN, HENRY DOELLER ORS 011
4 PINE TREE RD. A L/RT
ASHEVILLE 28804 704 252-9948

SEVIER, ROBERT ENGLISH END /IM 041
200 E. NORTHWOOD ST., STE. 312 A AC
GREENSBORO 27401 919 274-7609

SHACKELFORD, ERNEST D.,JR. DR /NM 076
P. O. BOX 427 AC
ASHEBORO 27204 919 629-0774

SHACKELFORD, JOSEPH ROY, III FP 032
210 S. CAMERON ST. AC
HILLSBOROUGH 27278 919 732-9311

SHACKELFORD, ROBERT HILLIARD FP 096
238 SMITH CHAPEL ROAD A P AC
MOUNT OLIVE 28365 919 658-4954

SHAFER, DONALD THORNTON AN 041
5 MONMOUTH COURT A P AC
GREENSBORO 27410 919 373-8555

SHAFER, FRANK TYACK IM 080
P. O. BOX 2129 A * AC
SALISBURY 28144 704 636-1826

SHAFER, IRVING EVERETT, JR. R 049
P. O. BOX 588 A AC
STATESVILLE 28677 704 873-5661

SHAFFNER, LOUIS DES PDS /GS 034
740 N. PINE VALLEY ROAD A P * L/RT
WINSTON-SALEM 27106 919 725-1503

SHAFFNER, SUSAN CASPER PD 060
127 HILLSIDE AVE. A P R
CHARLOTTE 28209 704 332-7539

SHAH-KHAN, SARDAR MAHMOOD IM /CD 012
303 COLLEGE STREET A P * AC
MORGANTON 28655 704 437-4261

SHAH, JYOTSNA RAMESH AN 065
116 ROBERT E. LEE DRIVE AC
WILMINGTON 28403 919 763-4901

SHAH, PRIYAVADAN MANEKLAL CD /IM 092
121 EDINBURGH ST. #208 A AC
CARY 27511 919 469-9919

SHAH, RAMESH MANHARLAL OBG 065
116 ROBERT E. LEE DRIVE AC
WILMINGTON 28401 919 791-2301

SHAHADY, EDWARD JOHN FP 032
UNC,TRAILER 15,269H,DPT.FAM MD AC
CHAPEL HILL 27514 919 966-3714

SHAHADY, GERTRUDE KOCH 032
112-A W. POPLAR AVE. A S
CARRBORO 27510 919 942-2077

SHAIA, WILLIAM HARRY FP 060
2125 BERRYHILL ROAD AC
CHARLOTTE 28208 704 375-3217

SHALOM, ROSE IM /NEP 032
UNC, BLDG. 469-H AC
CHAPEL HILL 27514 919 966-2281

SHAMBLIN, WILLIAM JOSEPH, JR CHP /P 011
HIGHLAND HOSPITAL A AC
P. O. BOX 1101
ASHEVILLE 28802 704 254-3201

SHANKER, KASTURI GIRIJA U 042
117 WEST SEVENTH STREET P AC
ROANOKE RAPIDS 27870 919 537-0023

SHANNON, WILLIAM BARTHOLOMEW OPH 036
1061 X-RAY DR. A AC
GASTONIA 28054 704 861-8557

SHANNON, WILLIAM GARY AN 080
ROUTE #8, BOX 315 A AC
SALISBURY 28144 704 637-3599

SHAPIRO, DANIEL ALLEN AN 065
329 TRAILS END ROAD, #4 A AC
WILMINGTON 28403 919 343-7000

SHAPIRO, MARK THOMAS OPH 041
1311 N. ELM ST. AC
GREENSBORO 27401 919 378-9993

SHAPIRO, WILLIAM HARTMAN IM /CD 081
NORRIS-BIGGS CLINIC AC
RUTHERFORDTON 28139 704 286-9036

SHAPPLEY, BEN GORDON PD 074
1800 W. FIFTH STREET AC
GREENVILLE 27834 919 752-7141

SHARMA, DEVENDRA IM 051
P. O. BOX 1690 A AC
SMITHFIELD 27577 919 934-5568

SHARPLESS, EDWARD ARTHUR PTH 041
DRAWER X-3 A AC
GREENSBORO 27402 919 299-6815

SHARPLESS, ELIZABETH P. 032
207 CONNER DR. APT. 23 A S
CHAPEL HILL 27514 919 967-6791

SHARPLESS, MARTHA KORNEGAY PD 041
MOSES CONE HOSPITAL A AC
GREENSBORO 27401 919 379-4064

SHARPTON, BENNIE REEVES GS 044
1600 N. MAIN STREET A AC
WAYNESVILLE 28786 704 456-8633

SHASTRY, CHANDRASHEKARA IM /END 036
607 E. GARRISON BLVD. AC
GASTONIA 28054 704 866-4607

SHAVENDER, EUGENE FRANK GYN 032
1830 HILLANDALE ROAD A AC
DURHAM 27705 919 383-5531

SHAVER, EDWARD FRANKLIN, JR. OT 060
1851 E. THIRD STREET A AC
CHARLOTTE 28204 704 376-8436

SHAW, DALE RUSSELL DR 092
P. O. BOX 19366 A * AC
RALEIGH 27619 919 787-8199

SHAW, FRANK STEDMAN PD /PDA 026
P. O. BOX 53127 A AC
FAYETTEVILLE 28305 919 484-3121

†SHAW, JOHN ALEXANDER PD 026
5948 BRAGG BOULEVARD A L
DECEASED - 3-23-87
FAYETTEVILLE 28305 919 484-3121

SHAW, LLOYD ROOSEVELT GYN 049
222 N. OAK STREET A L/RT
STATESVILLE 28677 704 873-9642

SHAW, ROBERT ARNETT PUD /IM 074
1705 W. SIXTH STREET AC
GREENVILLE 27834 919 752-6101

SHEALY, FRED GRAY, JR. GS /VS 045
561 FLEMING STREET AC
HENDERSONVILLE 28739 704 693-1778

SHEALY, RONALD BERNARD OTO 034
175 CHARLOIS BLVD., STE. 101 A AC
WINSTON-SALEM 27103 919 768-3361

SHEARER, JAMES NEIL PS 060
2711 RANDOLPH ROAD, STE. 502 AC
CHARLOTTE 28207 704 372-8800

SHEARIN, JACOB CONNELL, JR. PS /GS 034
208 FORSYTH MEDICAL PARK AC
1900 S. HAWTHORNE RD.
WINSTON-SALEM 27103 919 748-4171

SHEARIN, WILBURN THADDEUS, JR. U 065
1905 GLEN MEADE ROAD A AC
WILMINGTON 28403 919 763-6251

SHEARIN, WILLIAM ARTHUR OPH 092
2800 BLUE RIDGE BLVD., STE.405 * AC
RALEIGH 27607 919 781-7373

SHEETS, DOUGLAS DEAN OBG 081
TRYON RD., PO BOX 1208 A * AC
RUTHERFORDTON 28139 704 287-7383

SHELBURNE, JOHN DANIEL PTH 032
BOX 3712, DUMC AC
DURHAM 27710 919 286-6925

SHELBURNE, PALMER FRIEND CD 041
1011 PROFESSIONAL VILLAGE A AC
GREENSBORO 27401 919 272-6133

SHELDON, FRANK CHADWICK EM /GS 007
BEAUFORT COUNTY HOSPITAL AC
EAST 12TH STREET
WASHINGTON 27889 919 946-1911

SHELDON, GEORGE FRANK GS /TRS 032
UNC,131 BURNETT-WOMACK A AC
CHAPEL HILL 27514 919 966-4052

SHEN, SUNG FAN FP 026
2414 HOPE MILLS ROAD A P AC
FAYETTEVILLE 28304 919 424-2426

SHEPARD, ARTHUR JAMES, III 032
130-N EAST LONGVIEW A S
CHAPEL HILL 27514 919 942-2342

SHEPARD, CLAUDIA PRICHARD 034
1406 JARVIS ST. A S
WINSTON-SALEM 27101 919 722-8253

SHEPHERD, ROBERT EDWARD DR 041
P. O. BOX 13005 A AC
GREENSBORO 27405 919 273-0325

SHEREFF, RICHARD HENRY D/A 026
139 HUNTER CIRCLE A P AC
FAYETTEVILLE 28304 919 323-4888

SHERIDAN, ROBERT JOHN PD 064
101 NASH MEDICAL ARTS MALL AC
ROCKY MOUNT 27804 919 443-8820

SHERMER, RICHARD WAYNE PTH 032
UNC, DEPT. OF PATHOLOGY A AC
BRINKHOUS-BULLITT BLDG.228H
CHAPEL HILL 27514 919 966-2339

SHERRILL, GARY BRADLEY 032
200 GREEN ST. A S
CHALET APTS. APT. K
CHAPEL HILL 27514 919 929-2435

SHERRILL, WILLIAM C., JR. IM /PUD 036
1896 REMOUNT RD. A AC
GASTONIA 28054 704 867-0735

SHERRINGTON, BRIAN THOMAS PD 063
195 W. ILLINOIS AVE. A * AC
SOUTHERN PINES 28387 919 692-2444

SHETTERLY, ROGER DAVIS OPH 045
1027-B FLEMING STREET A AC
HENDERSONVILLE 28739 704 693-4161

SHICK, JAFAR MO AN 092
7321 GRIST MILL RD. A * AC
RALEIGH 27609 919 755-8000

SHIEH, RICHARD CHEN HAI R 009
HOSPITAL DR. AC
PO BOX 398
ELIZABETHTOWN 28337 919 862-4043

SHIELDS, CHARLES ROBERT PM 011
PO BOX 15025 A AC
ASHEVILLE 28813 704 274-2400

SHIELDS, MILTON BRUCE OPH 032
DUKE UNIVERSITY EYE CENTER A AC
DURHAM 27710 919 684-2841

SHIMM, CYNIA BROWN P/PYA 032
2609 N. DUKE ST. STE. 103 A AC
DURHAM 27704 919 471-3487

SHINGLETON, WILLIAM WARNER GS 032
BOX 3814, DUMC A AC
DURHAM 27710 919 684-2282

SHINN, GEORGE CLYDE GP 080
111 N. MAIN STREET A L
CHINA GROVE 28023 704 857-7098

SHIREY, JOHN LUTHER A 011
NEW LEICESTER HIGHWAY L/RT
RT. #4, BOX 1525
ASHEVILLE 28806 704 683-2360

SHIRLEY, ROBERT E.L., JR. OBG 060
1955 RANDOLPH ROAD AC
CHARLOTTE 28207 704 376-3536

SHIVE, ROBERT MACGREGOR P 060
1937 SELWYN AVENUE AC
CHARLOTTE 28207 704 375-7717

SHIVERS, JAMES ALLISON DR /NM 011
STE. 301, 445 BILTMORE CENTER A AC
ASHEVILLE 28801 704 254-2371

SHOAF, EDWIN HUSS, JR. IM 060
491 N. WENDOVER RD. AC
CHARLOTTE 28211 704 366-7291

SHOOK, EARL LESTER, JR. U 011
100 VICTORIA ROAD * AC
ASHEVILLE 28801 704 254-8883

SHORT, EARL DEGREY, JR., P 060
501 BILLINGSLEY RD. A AC
CHARLOTTE 28211 704 375-3575

SHOWN, THOMAS EARL U 034
2932 LYNDHURST AVENUE AC
WINSTON-SALEM 27103 919 765-4021

SHUFORD, FULLER ADAMS GE /IM 011
49 MCDOWELL ST. A AC
ASHEVILLE 28801 704 258-3870

SHUFORD, WILLIAM FERRELL, JR. GE 065
1515 DOCTOR'S CIRCLE A AC
WILMINGTON 28401 919 763-5182

SHUGART, MARGARET ANN P 032
1713 AVONDALE DR. A R
DURHAM 27701 919 688-9003

SHULER, JIMMIE BLAKE PD 043
518 EAST H STREET AC
PO BOX 687
ERWIN 28339 919 897-8061

SHULL, KENNETH CASTLES GS /CDS 040
P. O. BOX 5229 A AC
HIGH POINT 27262 919 887-3164

SHULL, LONNIE NEWELL, JR. GS 014
401 MULBERRY ST. SW, STE. 101 A AC
LENOIR 28645 704 758-5501

SHULTZ, KIRKWOOD TANNER IM /END 060
125 BALDWIN AVE. A AC
CHARLOTTE 28204 704 374-1696

SHUMWAY, DAVID LUCIUS EM 064
112 CANDLEWOOD ROAD A AC
ROCKY MOUNT 27804 919 937-6581

SHUPING, JOHN ROSS N 074
425 STANTONSBURG ROAD A AC
GREENVILLE 27834 919 752-4848

SIDES, EVIN HENDERSON, III IM /ID 092
3320 EXECUTIVE DR. AC
RALEIGH 27609 919 876-9688

SIEFKER, JOSEPH DANIEL OTO 032
1605 EDGEVALE RD. A R
DURHAM 27705 919 688-1816

SIEGE, ALFRED GEOFFREY PH /GPM 063
PO BOX 786 A * L/RT
PINEHURST 28374 919 692-8899

SIEKER, HERBERT OTTO IM /A 032
BOX 3822, DUMC A P AC
DURHAM 27710 919 684-3907

SIEWERS, CHRISTIAN FOGLE ORS /PM 026
S.E. REGIONAL REHAB. A AC
P. O. BOX 2000
FAYETTEVILLE 28302 919 323-6036

SIGMON, JAMES LEWIS, JR. FP 060
P. O. BOX 32861 A AC
CHARLOTTE 28232 704 338-3172

SIGMON, LEE MERRELL PTH /DMP 045
121 TIMBER CREEK ROAD A AC
HENDERSONVILLE 28739 704 693-6522

SIGMON, RICHARD LEE, JR. GE 060
1900 RANDOLPH RD.,, STE. 910 A AC
CHARLOTTE 28207 704 372-7974

SIKES, THOMAS EDWARD, JR. ORS 013
109 COUNTRY CLUB DR., NE A AC
CONCORD 28025 704 786-5122

SILBER, DAVID LAWRENCE PD 041
1200 N. ELM STREET A AC
GREENSBORO 27401 919 379-4064

SILBERMAN, HAROLD REITER EM /IM 032
BOX 3975-M, DUMC A AC
DURHAM 27710 919 684-5537

SILBIGER, STEPHEN ALAN IM 060
III FAIRVIEW PLAZA, STE. 100 AC
5950 FAIRVIEW RD.
CHARLOTTE 28210 704 551-4200

SILLMON, DAVID WILDE IM /HEM 041
1511 WESTOVER TERRACE A AC
GREENSBORO 27408 919 373-0611

SILVERMAN, JAN FRANKLIN PTH 074
BRODY, 1F79, ECU SCH. OF MED A AC
GREENVILLE 27834 919 551-4495

SILVERTHORNE, RAY GUILFORD OBG 007
RT. #2, BOX 35 A L/RT
WASHINGTON 27889 919 946-5168

SILVOY, EDWARD JOHN OTO /PS 036
1010 X-RAY DR. A AC
GASTONIA 28054 704 865-7677

SIMEL, PAUL JOSEPH OPH 041
111 W. WENDOVER AVENUE A * AC
GREENSBORO 27401 919 275-5673

SIMMONS, CHARLES NUMA R 012
P. O. BOX 271 A AC
RUTHERFORD COLLEGE 28671 704 879-9541

SIMMONS, EVERETT CASEY P 074
ECU, DEPT. OF PSYCHIATRY A AC
GREENVILLE 27858 919 551-2660

SIMMONS, JAMES SLATER FP 053
P. O. BOX 850 A L/RT
SANFORD 27330 919 775-7425

SIMMONS, JIMMIE DALE PH /FP 086
SURRY COUNTY HEALTH DEPT. * AC
PO BOX 1062
DOBSON 27017 919 374-2131

SIMON, JIMMY L. PD 034
BOWMAN GRAY, DEPT. OF PED. AC
WINSTON-SALEM 27103 919 748-4431

SIMONS, WILLIAM JOHN 011
9 W. AVON PARKWAY R
ASHEVILLE 28804 704 258-9635

SIMONSON, DELLA SUE PD /PH 039
MURDOCH CENTER A AC
BUTNER 27509 919 575-7740

SIMONTON, CHARLES ALISON IM /CD 032
BOX 3310, DUMC AC
DURHAM 27710 919 681-6498

SIMPSON, EUGENE MYERS, JR. PD 034
250 CHARLOIS BOULEVARD A AC
WINSTON-SALEM 27103 919 768-4730

SIMPSON, JOHN LARRY FP 076
132-A W. MILLER STREET A AC
ASHEBORO 27203 919 625-1360

SIMS, WILLIAM LEONARD NS 018
420 N. CENTER ST. A P AC
HICKORY 28601 704 324-9609

SIMSTEIN, NEIL LELAND GS /CDS 034
3309-B HEALY DR. A
WINSTON-SALEM 27103 919 768-7500

SINAR, DENNIS ROBERT GE /IM 074
ECU-DEPT. OF GE A AC
GREENVILLE 27834 919 551-4652

SINCLAIR, LOUIS GORDON GS /GYN 092
3309 WHITE OAK ROAD A L/RT
RALEIGH 27609 919 787-9356

SINCLAIR, ROBEY THOMAS, JR. DR 065
5301 WRIGHTSVILLE AVENUE A L/RT
WILMINGTON 28401 919 395-8100

SINCOX, FRANCIS JOHN, JR. FP 023
PO BOX 1309 A AC
KINGS MOUNTAIN 28086 704 739-3681

SINGER, JAMES DANIEL 032
DD6 OLD WELL CONDOS A S
CARRBORO 27510 919 968-4482

SINGER, JAMES WILLARD PD 041
1209 MAGNOLIA STREET A AC
GREENSBORO 27401 919 274-0106

SINGER, LAWRENCE ROBERT OBG 034
250 CHARLOIS BOULEVARD A AC
WINSTON-SALEM 27103 919 768-4730

SINGH, MANMOHAN GS 051
713 NORTH ST. AC
PO BOX 1196
SMITHFIELD 27577 919 934-2616

SINGH, RANBIR ORS 076
542 WHITE OAK STREET A * AC
ASHEBORO 27203 919 629-4171

SINGLETARY, HENRY PATE PTH 065
2131 S. 17TH ST. A P AC
WILMINGTON 28401 919 343-7074

SINGLETARY, WILLIAM VANCE IM 032
306 S. GREGSON STREET L/RT
DURHAM 27701 919 682-5561

SINGLETARY, WILLIAM VANCE, JR. GE 032
306 S. GREGSON STREET A AC
DURHAM 27701 919 682-5561

SINNING, MARK ALAN TS /CDS 025
800 HOSPITAL DR. A AC
NEW BERN 28560 919 638-8118

SINTHUSEK, CHIRAPA IM /END 034
1200 TARTAN CT. A P * AC
WINSTON-SALEM 27106 919 725-4741

SIPPE, JOSEPH LAWRENCE OPH 060
1350 S. KINGS DRIVE * AC
CHARLOTTE 28207 704 372-8750

SIRISENA, OMATTA MUDALIGE IM /P 064
117 FOY DRIVE AC
ROCKY MOUNT 27801 919 443-7678

SISCOVICK, DAVID STUART IM /PH 032
UNC, DEPT. OF MEDICINE AC
BOX 2,5039 OLD CLI.BLDG.226-H
CHAPEL HILL 27514 919 966-2276

SIVA, SIVALINGAM NS 036
900 COX ROAD A P AC
GASTONIA 28054 704 865-7655

SIY-HIAN, BIENVENIDO CHAN IM /CD 082
603 BEAMAN STREET AC
CLINTON 28328 919 592-1545

SKOWRONEK, DAVID GORDON EM /ORS 080
11 SPICEWOOD LANE A P AC
SALISBURY 28144 704 638-1035

SKRZYNSKI, MARY CLAIRE 032
140 RIDGE TR. A S
CHAPEL HILL 27514 919 929-4113

SLATE, FRANCIS WESLEY GS 034
P. O. BOX 407 A AC
MOCKSVILLE 27028 704 634-6121

SLATE, MARVIN LONGWORTH FP 040
807 PARKWOOD CIRCLE A L/RT
HIGH POINT 27260 919 883-9756

SLATER, PATRICK W., II 074
ROUTE #1, BOX 379 A S
PRINCETON 27569 919 965-2864

SLAUGHTER, THOMAS FREEMAN 032
3443-M N. DRUID HILLS RD. A S
DECATUR, GA 30033

SLEDGE, JOHN BURTON, JR. PH 070
P. O. BOX 610 A AC
KILL DEVIL HILLS 27948 919 441-6182

SLEMP, CATHERINE C. 032
869 LOUISE CIRCLE A S
DURHAM 27705 919 383-8354

SLIWINSKI, STANLEY FRANCIS,JR. OPH 049
P. O. BOX 1460 AC
STATESVILLE 28677 704 878-2011

SLOAN, ALLEN BARRY GP 049
5150 SHARON RD. APT. 554 A L/RT
CHARLOTTE 28210 704 553-1670

SLOAN, DAVID BRYAN, JR. OPH 065
1915 GLEN MEADE ROAD A AC
WILMINGTON 28403 919 763-3601

SLOAN, JAMES BOYKIN OPH 065
1915 GLEN MEADE ROAD A P * AC
WILMINGTON 28401 919 763-3601

SLOAN, JAMES MARSHALL, III FP 011
942 TUNNEL ROAD A AC
ASHEVILLE 28805 704 298-7972

SLOOP, NORMAN RAY GP 080
310 STATESVILLE BOULEVARD A AC
SALISBURY 28144 704 636-5326

SLOOP, ROBERT F., JR. OPH 098
WILSON CLINIC A AC
WILSON 27893 919 291-7008

SLOTKIN, ROBERT IRVING PD 060
2317 RANDOLPH ROAD AC
CHARLOTTE 28207 704 376-5572

SLOTNICK, LAWRENCE SHELDON PUD /A 041
1018 N. ELM STREET A AC
GREENSBORO 27401 919 275-7238

SLUDER, FLETCHER SUMPTER OBG 011
472 CHUNN'S COVE ROAD A L/RT
ASHEVILLE 28805 704 252-7374

SLUSHER, M. MADISON OPH 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4091

SLYMAN, JAMES FRANCIS OPH 029
2 HOSPITAL DR. A P * AC
LEXINGTON 27292 704 243-2436

SMALES, WILLIAM PALMER 034
STUDENT BOX 411, BOWMAN GRAY A S
300 S. HAWTHORNE RD.
WINSTON-SALEM 27103 919 351-4144

SMALL, FAIRLEIGH DAVID EM 064
3605 SHEFFIELD DR. A P AC
ROCKY MOUNT 27803 919 443-8171

SMALL, KENT WILSON OPH 032
3775 GUESS ROAD #23 A F
DURHAM 27705 919 684-6611

SMALLEY, ROBERT ROWAN GS 065
5305-F WRIGHTSVILLE AVENUE A AC
WILMINGTON 28403 919 799-5400

SMALLWOOD, JAMES CLAYTON OBG /IM 050
10 EASTGATE CENTER A AC
SYLVA 28779 704 586-2135

SMALTO, GARY PAUL 034
401 S. SUNSET DR. A S
WINSTON-SALEM 27103 919 724-9744

†SMEDBERG, GEORGE ANDREW GS 001
517 CIRCLE DR. AC
DECEASED - 4-10-87
BURLINGTON 27215 919 228-7853

SMELZER, TIMOTHY HARVEY IM /PUD 032
891 W. WILLOW DRIVE AC
CHAPEL HILL 27514 919 942-5123

SMERASKI, PHILIP JOHN P 074
ECU SCH. MED-DEPT. OF PSY. A AC
BRODY 4E98
GREENVILLE 27858 919 551-2660

METHIE, WILLIAM MASSIE, SR. GS 004
P. O. BOX 309 A L/RT
WADESBORO 28170 704 694-2316

MITH, ALLEN DALE D/AM 032
182 MONTROSE A L/RT
DURHAM 27707 919 489-2642

MITH, BARBARA ANNE 034
607-B S. HAWTHORNE RD. A S
WINSTON-SALEM 27103 919 723-7041

MITH, BERNARD MICHAEL VS /GS 091
VANCE MEDICAL ARTS BLDG. A AC
RUIN CREEK ROAD
HENDERSON 27536 919 438-2070

MITH, BRYAN WESLEY 032
302 PITTSBORO ST. A S
CHAPEL HILL 27514 919 929-7447

MITH, CAMERON LANGLEY D 074
1705 W. SIXTH STREET AC
GREENVILLE 27834 919 752-4124

MITH, CHARLES GORDON FP /EM 065
118 BEAGLE TRAIL A L/RT
WILMINGTON 28403 919 799-1873

MITH, CHRISTOPHER EDMUND ORS 001
723 EDITH ST. AC
BURLINGTON 27215 919 229-4256

MITH, CLAIBORNE THWEATT IM 064
100 MEDICAL ARTS MALL A L
ROCKY MOUNT 27801 919 442-2916

MITH, CLAUDE ALFRED R 034
3155 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27103 919 765-2702

MITH, DALLAS AARON, JR. DR 041
4507 KENBRIDGE DRIVE A * AC
GREENSBORO 27410 919 854-1311

MITH, DAVID ALDEN FP 032
200 EASTOWNE DR. STE. 216 AC
CHAPEL HILL 27514 919 967-4202

MITH, DAVID CLARK IM 029
102 WESTOVER DRIVE A L/RT
LEXINGTON 27292 704 246-2929

MITH, DAVID NIMMONS IM /CD 080
102 MOCKSVILLE AVE., STE. 103 A * AC
SALISBURY 28144 704 636-6632

MITH, DAVID TILLERSON PUD 004
GENERAL DELIVERY A L
PAWLEYS ISLAND, S. C. 29585

MITH, DONALD DEWEY PD 041
1200 N. ELM ST. A AC
GREENSBORO 27401 919 379-4025

MITH, DOUGLAS GRAHAM 032
207 CONNER DR. #17 A S
CHAPEL HILL 27514 919 967-2035

MITH, DUANE HOWARD OBG 097
1018 RIVER ROAD A AC
WILKESBORO 28697 704 667-8241

MITH, ERASTUS, JR. IM 053
136-A CARBONTON RD. A AC
PO BOX 1768
SANFORD 27330 919 775-5457

MITH, EUSTACE HENRY FP 006
BOX 190 A AC
CROSSNORE 28616 704 733-9297

MITH, EVERETT DUANE GP 011
BOX 1030 A AC
CANDLER 28715 704 667-2526

MITH, HELEN ELIZABETH 032
3312-L CIRCLE BROOK DR. SW A R
ROANOKE, VA 24014 703 772-3071

MITH, HENRY LOUIS, II PD 060
1700 ABBEY PLACE A * AC
CHARLOTTE 28209 704 523-7232

MITH, IRA Q. OBG 032
2609-B CARVER ST. AC
DURHAM 27705 919 471-1573

MITH, JAMES DAVID 074
P-2 DOCTORS PARK A S
GREENVILLE 27834 919 758-7116

MITH, JAMES JEFCOAT GP 074
1903 BROOK ROAD A RT
GREENVILLE 27834 919 756-3905

MITH, JANE SWAN IM 092
1212 CEDARHURST DR. A AC
RALEIGH 27609 919 872-4850

MITH, JARVIS WILTON GS 001
316 GRAHAM-HOPEDALE RD. A * AC
BURLINGTON 27215 919 227-3621

SMITH, JAY LELAND, JR. GP 080
P. O. BOX 85 * AC
SPENCER 28159 704 636-8046

SMITH, JERRY EDWARD OBG 063
PO BOX 2000 A AC
PINEHURST SURGICAL CLINIC
PINEHURST 28374 919 295-0282

SMITH, JOHN BALDWIN, III N/CHN 034
160 CHARLOIS BLVD. A AC
WINSTON-SALEM 27103 919 768-5834

SMITH, JOHN BRASWELL, JR. FP 082
403 FAIRVIEW STREET AC
CLINTON 28328 919 592-6011

SMITH, JOSEPH PINKNEY GP 036
1508 S. YORK STREET AC
GASTONIA 28052 704 864-3496

SMITH, LAFAYETTE LYLE IM 040
624 QUAKER LANE, SUITE 213-B A P * AC
HIGH POINT 27262 919 883-4131

SMITH, MICHAEL ALSON FP 000
1325 EDENFIELD DR. A R
FT. WALTON BEACH, FL 32548 919 383-4326

SMITH, MICHAEL EARL 074
ROUTE #2, BOX 93 A S
WINTERVILLE 28590 919 756-3960

SMITH, MICHAEL LEE PD /D 000
1412 S. CHAMBERS CIRCLE A R
AURORA, CO 80012

SMITH, NAT ERSKINE IM 034
2900 COUNTRY CLUB ROAD A AC
WINSTON-SALEM 27104 919 748-4524

SMITH, O. NORRIS IM 041
202 W. BESSEMER AVENUE A L/RT
GREENSBORO 27401 919 273-7494

SMITH, PHILIP PALMER OM /IM 065
P. O. BOX 2042 A * AC
WILMINGTON 28402 919 371-4080

SMITH, RICHARD LLOYD GE 011
30 CHOCTAW STREET A AC
ASHEVILLE 28801 704 254-0881

SMITH, ROBERT CLEMENT IM 006
BOX 248 A AC
BANNER ELK 28604 704 898-5588

SMITH, ROBERT LEE PTH 086
320 ROBIN ROAD A P AC
MOUNT AIRY 27030 919 789-9710

SMITH, ROGER ENOS CD /IM 060
125 BALDWIN AVE. A * AC
CHARLOTTE 28204 704 374-1696

SMITH, RONNIE DALE EM /GP 024
701 E. FIFTH ST. A AC
TABOR CITY 28463

SMITH, ROY MEADOWS PD 041
1002 RIDGECREST DR. A L/RT
GREENSBORO 27410 919 292-2643

SMITH, RUSSELL LEE IM /GP 034
1030 W. 25TH STREET A L/RT
WINSTON-SALEM 27104 919 723-2188

SMITH, SCOTT VICTOR 032
3310 DEVON RD. A S
DURHAM 27707 919 493-2983

SMITH, SPENCER MARION 032
206 ALEXANDER ST., APT. E A S
DURHAM 27705 919 684-1502

SMITH, STEPHEN WAYNE IM /CD 092
2800 BLUE RIDGE, STE. 205 AC
RALEIGH 27607 919 782-0414

SMITH, THOMAS WARREN IM 055
P. O. BOX 1510 AC
LINCOLNTON 28092 704 735-6939

SMITH, TIMOTHY CARL IM 064
1400 BROOKWOOD DR. * AC
PO BOX 7828
ROCKY MOUNT 27804 919 937-4084

SMITH, WHITMAN ERSKINE, JR. GS 084
P. O. BOX 1398 AC
ALBEMARLE 28001 704 982-0161

SMITH, WILLIAM SIEGFRIED, JR. GYN 041
104 W. NORTHWOOD STREET A AC
GREENSBORO 27401 919 378-1843

SMITHWICK, JAMES DAVID PD 083
ROUTE #3, BOX 238-B * AC
LAURINBURG 28352 919 276-7570

SMOLEN, PAUL MATHIEU PD 060
1851 E. THIRD ST. AC
CHARLOTTE 28204 704 333-6659

SMOLOWITZ, EDWIN LARRY U 045
735 6TH AVE. WEST A P AC
HENDERSONVILLE 28739 704 697-0527

SNEDEKER, JEFFREY DAVID PD /ID 032
BOX 31085, DUMC R
DURHAM 27710 919 684-6610

SNIPES, RICHARD DEAN OBS 026
P. O. BOX 53514 A AC
FAYETTEVILLE 28305 919 485-1191

SNITZ, ARNOLD IRA PD 060
2711 RANDOLPH ROAD AC
CHARLOTTE 28207 704 332-7141

SNODDY, WILLIAM RAY FP 011
5-F DOCTOR' PARK AC
ASHEVILLE 28801 704 252-8885

SNOW, SIDNEY LEWIS U 014
328 MULBERRY STREET, S.W. A AC
LENOIR 28645 704 754-2166

SNOWHITE, JENNIFER CELESTE 034
1712 ELIZABETH AVE. A S
WINSTON-SALEM 27103 919 722-8712

SNYDER, ALEXANDER BENJAMIN IM 090
1420 E. FRANKLIN ST. AC
MONROE 28110 704 289-8427

SNYDER, EDWARD SUTTON DR /NM 092
1216 BARCROFT PLACE A P AC
RALEIGH 27609 919 847-1289

SNYDER, JAMES WILLIAM CD /IM 065
1515 DOCTOR'S CIRCLE A AC
WILMINGTON 28401 919 763-5182

SNYDER, JOHN MICHAEL AN 060
R.F.D. #3, BOX 120F A AC
WAXHAW 28173 704 371-4049

SNYDER, NORMAN IRWIN P/CHP 026
1262 OLIVER ST. A AC
FAYETTEVILLE 28304 919 484-5151

SNYDER, RALPH EUGENE IM 063
MEDICAL REVIEW OF NC, INC. A * AC
PO BOX 37309
RALEIGH 27627 919 851-2955

SOBOL, TODD LOWELL 074
919-A BOSCASTLE CT. A S
COLUMBUS, OHIO 43214 919 752-7202

SOCKWELL, SAMUEL THOMAS 032
209-C BRANSON ST. A S
CHAPEL HILL 27514 919 933-6668

SODEN, KEVIN JOSEPH OM /EM 060
7019 WHITEMARSH COURT A P AC
CHARLOTTE 28210 704 554-2656

SODERSTROM, LAWRENCE PAUL DR /NM 036
10230 BALMORAL CIRCLE A AC
CHARLOTTE 28210 704 864-4378

SOFLEY, CARL WILSON, JR. 032
319 KILBOURNE RD. A R
COLUMBIA, SC 29205 803 254-5847

SOHMER, MARCUS FRANK, JR. GE /IM 034
1901 S. HAWTHORNE RD. #310 A * AC
WINSTON-SALEM 27103 919 760-4340

SOLOMON, DONALD JEFFREY N 065
1202 MEDICAL CENTER DR. A AC
WILMINGTON 28401 919 341-3300

SOLOMON, ROBERT DOUGLAS PTH /GER 065
113 S. BELVEDERE DR. AC
HAMPSTEAD 28443 919 270-2019

SOLTYS, JOHN JOSEPH P/CHP 032
UNC, MEDICAL WING D, 208-H AC
CHAPEL HILL 27514 919 966-5277

SOMERS, WILLIAM ALAN ORS 032
1830 HILLANDALE ROAD A AC
DURHAM 27705 919 286-1249

SOMERSTEIN, DAVID EUGENE U 060
3535 RANDOLPH ROAD A AC
CHARLOTTE 28211 704 365-0371

SOMKUTI, STEPHEN GEORGE 032
2601 STUART DR. A S
DURHAM 27707 919 489-9434

SOMMERVILLE, LEWIS CASS FP 011
1425 PATTON AVENUE A AC
ASHEVILLE 28806 704 254-5385

SONEK, MOJMIR JIRI OBG 097
C/O BRUSHY MOUNTAIN OB-GYN A AC
MEDICAL ARTS BLDG.
NORTH WILKESBORO 28659 919 634-0051

SONG, JULIET KIM AN 074
PHYSICIAN'S QUADRANGLE A P AC
GREENVILLE 27834 919 752-1433

SOPER, HERBERT ALVA GYN /OBS 034
1901 S. HAWTHORNE RD. STE. 320 A AC
WINSTON-SALEM 27103 919 768-1180

SORIANO, CLINTON REYES CDS 034
1901 S. HAWTHORNE RD. STE. 340 A P AC
WINSTON-SALEM 27103 919 765-6277

SORROW, JOHN MITCHELL, JR. IM /CD 032
N. C. MEMORIAL HOSPITAL A AC
CHAPEL HILL 27514 919 962-8336

SOTOLONGO, CARLOS A. FP 032
5501 FORTUNE RIDGE DR., STE. A AC
DURHAM 27713 919 544-3737

SOUTH, STEPHEN ALAN IM 034
3059-F ORDWAY DR., NW A S
ROANOKE, VA 24017

SOUTHWORTH, ALVIN JUDSON OBG 070
1134 N. ROAD STREET AC
ELIZABETH CITY 27909 919 338-0887

SOWDEN, RICHARD GUY U 090
1503 E. FRANKLIN STREET A AC
MONROE 28110 704 289-5402

SOX, CARL CAUGHMAN GP 051
P. O. BOX 429 A L
KENLY 27542 919 284-4149

SPAETH, WALTER IM 070
1904 RIVERSHORE ROAD A L/RT
ELIZABETH CITY 27909 919 335-7389

SPAIN, ROBERT SPRUILL IM 092
3707 OLD LASSITER MILL ROAD AC
RALEIGH 27609 919 782-2805

SPANGENTHAL, SELWYN PUD 060
1350 S. KINGS DR. AC
CHARLOTTE 28207 704 372-8750

SPANGLER, ERNEST BURTON R 041
DRAWER X-3 A P * AC
GREENSBORO 27402 919 854-6546

SPANGLER, THOMAS CLAYTON ORS 032
1603 ARTHUR DR. A R
GRAHAM 27253 919 226-6586

SPANGLER, WILLIAM WOEHLING EM 000
SOUTH LOUISIANA MED. CTR. A R
1978 INDUSTRIAL BLVD.
HOUMA, LA 70363 504 868-8140

SPARGO, JOHN PRICHARD FP 080
P. O. BOX 278 A P * AC
COOLEEMEE 27014 704 284-2331

SPARLING, PHILIP FREDERICK ID /IM 032
UNC SCHOOL OF MEDICINE AC
CHAPEL HILL 27514 919 966-2536

SPARROW, HARRY WARD IM 041
342 N. ELM STREET A AC
GREENSBORO 27401 919 275-8436

SPARROW, NATHANIEL LOUIS OTO 092
3010 ANDERSON DR. A AC
PO BOX 18946
RALEIGH 27619 919 787-7171

SPAUGH, EARLE PD /ADL 060
411 N. WENDOVER RD. AC
CHARLOTTE 28211 704 375-9795

SPEES, LYNN BEECHER PD 018
THE CHILDHEALTH CENTER A AC
1375 4TH ST. DR. NW
HICKORY 28601 704 322-4453

SPENCER, ALLEN GS /GYN 080
820 W. HENDERSON STREET A AC
SALISBURY 28144 704 633-2883

SPENCER, FREDERICK BRUNELL, JR IM 080
820 W. HENDERSON STREET A AC
SALISBURY 28144 704 636-5016

SPENCER, GEORGE MICHAEL 074
3000 GOLDEN RD., CONDO #7 A S
GREENVILLE 27834 919 758-5617

SPENCER, JOHN PAUL ORS 011
111 VICTORIA AT OAKLAND A AC
ASHEVILLE 28801 704 252-7331

SPENCER, RICHARD LEWIS P 034
3309-A HEALY DRIVE AC
WINSTON-SALEM 27103 919 765-6525

SPENCER, ROGER FELIX P/PYA 032
NCMH, 201 SOUTH WING AC
CHAPEL HILL 27514 919 966-4622

SPENCER, WILLIAM JOSEPH IM /CD 034
2933 MAPLEWOOD AVENUE A * AC
WINSTON-SALEM 27103 919 765-6020

SPENGLER, JOHN ROBERT R 045
PARDEE MEMORIAL HOSPITAL AC
HENDERSONVILLE 28739 704 693-6522

SPEROS, THOMAS LEE FP 007
501 WEST 15TH STREET AC
WASHINGTON 27889 919 975-2667

SPICER, SAMUEL SHERMAN EM /FP 074
EMERGENCY DEPT. A AC
NEW HANOVER MEM. HOSPITAL
WILMINGTON 28401

SPIGGLE, JOHN ALEXANDER U 012
500 E. PARKER ROAD A AC
MORGANTON 28655 704 433-5141

SPIGNER, PRESCOTT BUSH, JR. ORS 054
P. O. BOX 1062 AC
KINSTON 28501 919 522-4155

SPIVEY, DAVID EUGENE, JR. 034
1511 MAIN ST. SW A S
ROANOKE, VA. 24015 703 985-0216

SPIVEY, DAVID LEE AN 065
905 RABBIT RUN RD. AC
WILMINGTON 28403 919 762-4901

SPIVEY, JAMES RICHARD IM 060
1928 RANDOLPH RD. STE. 211 AC
CHARLOTTE 28207 704 377-3439

SPOCK, ALEXANDER PDA /A 032
BOX 2994, DUMC A AC
DURHAM 27710 919 681-3364

SPRAGINS, JOEL FRED GE /IM 023
808 N. SCHENCK STREET A AC
SHELBY 28150 704 482-1482

SPRAGUE, DAVID HUGH AN 032
UNC-DEPT. OF ANES. A P * AC
CHAPEL HILL 27514 919 966-3371

SPRINKLE, LAWRENCE TILSON GP 011
BOX 218, 104 N. MAIN ST. A AC
WEAVERVILLE 28787 704 645-3031

SPRUILL, JEROME OSCAR CD 041
PO BOX 21974 A P AC
GREENSBORO 27420 919 273-6911

SPRUILL, THOMAS RAYFORD P 032
RT. #5, BOX 200 A R
HILLSBOROUGH 27278 919 732-7500

SPRUNT, WM HUTCHINSON, III R/RHU 092
6508 BROOKHOLLOW DR. A AC
RALEIGH 27609 919 787-8199

SPUDIS, EDWARD VERHINES N 034
1900 S. HAWTHORNE RD. STE. 674 A AC
WINSTON-SALEM 27103 919 765-2195

SPURR, CHARLES LEWIS ON /HEM 034
300 S. HAWTHORNE RD. A L
WINSTON-SALEM 27103 919 748-2946

SQUIRES, RAYMOND JAY PTH 011
49 FOREST ROAD AC
ASHEVILLE 28803 704 274-4664

STABLER, CAREY VASTINE EM /IM 086
NORTHERN HOSP.-SURRY CO. A AC
MOUNT AIRY 27030 919 789-9541

STACKHOUSE, WILLIAM JAMES IM 096
201 COX BLVD. A
GOLDSBORO 27530 919 734-9455

STAFFORD, STEVEN JAMES U 092
3410 EXECUTIVE DR. STE. 201 AC
RALEIGH 27609 919 966-2571

STAFFORD, WILLIE RANSOME, JR. FP /OM 041
948 WALKER AVENUE A AC
GREENSBORO 27403 919 275-7665

STAHLY, WALTER REX FP 018
24 SECOND AVE., NE AC
HICKORY 28601 704 328-2231

STALHEIM, RODNEY MARTIN IM /CD 014
322 MULBERRY ST., SW A AC
PO BOX 1020
LENOIR 28645 704 758-5544

STALLINGS, DAVEY BINGHAM GP 034
P. O. BOX 69 A AC
RURAL HALL 27045 919 969-9158

STALLINGS, MARTIN WADE PD 023
108 EDGEMONT DR. P AC
KINGS MOUNTAIN 28086 704 739-2521

STALLINGS, STEPHEN D., JR. GP 035
ROUTE #2, BOX 109 A AC
ZEBULON 27597 919 269-8802

STALLINGS, THOMAS FRANKLIN PD 007
608 E. 12TH STREET AC
WASHINGTON 27889 919 946-4134

STALLINGS, TOLBERT LACY GS 092
3814 BROWNING PLACE AC
RALEIGH 27609 919 781-0710

STALLWORTH, WILLIAM KING OBG 060
2711 RANDOLPH RD.#305-A A AC
CHARLOTTE 28207 704 372-8020

STAMEY, CHARLES CLAUD PD 034
3000 BETHESDA PL. #501 AC
WINSTON-SALEM 27103 919 768-6830

STANDISH, MYLES 034
838 BRENT A S
WINSTON-SALEM 27103 919 725-6971

STANFORD, EDWARD JOSEPH 034
1935 GASTON ST. A * S
WINSTON-SALEM 27103

STANKUS, PAUL VICTOR AN 032
7 LITCHFORD ROAD A P AC
CHAPEL HILL 27514 919 967-5295

STANLEY, COVIA LEVANCE OBG 024
801-E POWELL BLVD. A AC
WHITEVILLE 28472 919 642-6022

STANLEY, FRANKIE EDWARD 074
2410-B E. THIRD ST. A S
GREENVILLE 27834 919 752-6172

STANLEY, RONALD JAY D 095
204 DOCTORS DRIVE P AC
BOONE 28607 704 264-4553

STANLEY, SHERBURN MOORE OM 011
ROUTE #1, BOX 5 A L/RT
TODD 28684 704 264-4274

STANTON, ALLIE MCLEOD GS 007
DRAWER 925 A L/RT
PLYMOUTH 27962 919 793-4125

STANTON, EDWARD SPIRES GS /TS 053
1816 DOCTORS DR. A AC
P. O. BOX 1169
SANFORD 27330 919 775-7146

STAPLETON, SYDNEY SCOTT OPH 026
101 ROBESON ST., STE. 407 A AC
FAYETTEVILLE 28301 919 483-2117

STAREK, PETER JOSEF KARL TS /GS 032
UNC, DIV. OF CARDIO-SURGERY A AC
CHAPEL HILL 27514 919 966-3381

STARK, THOMAS HALL GYN 036
603 COX ROAD AC
GASTONIA 28054 704 866-0111

STARLING, SUZANNE P. 074
RT. 14, BOX 47-A A * S
GREENVILLE 27834 919 758-0928

STARR, HENRY FRANK, JR. OM 041
3106 ALAMANCE RD. A AC
GREENSBORO 27407 919 299-4305

STAUB, ERNEST WILSON TS /CDS 063
PINEHURST SURGICAL CLINIC A P AC
PINEHURST 28374 919 295-0266

STEAD, EUGENE ANSON, JR. IM /CD 039
ROUTE #1, BOX 194 A L
BULLOCK 27507 919 684-6587

STEAGALL, ROBERT WORTH, JR. D 060
6434 SARDIS ROAD A RT
CHARLOTTE 28226 704 364-1050

STEEL, JOHN GRIFFITH N 074
425 STANTONSBURG ROAD A AC
GREENVILLE 27834 919 752-4848

STEELE, RICHARD AUSTIN IM /CD 011
445 BILTMORE AVE. STE. 408 A AC
ASHEVILLE 28801 704 258-9083

STEELE, ROBERT GIBSON ORS 080
400 MOCKSVILLE AVENUE A P AC
SALISBURY 28144 704 633-6442

STEELE, WALTER FRANKLIN GS /TS 012
VALDESE GENERAL HOSPITAL AC
VALDESE 28690 704 874-3160

STEFFES, BRUCE CARL GS 026
1790 METROMEDICAL DR. AC
FAYETTEVILLE 28304 919 323-2626

STEG, BRIAN DAVID CD /CD 018
1985 TATE BOULEVARD AC
HICKORY 28601 704 324-4804

STEGALL, JOHN THOMAS FP 049
310 DAVIE AVENUE L/RT
STATESVILLE 28677 704 873-3269

STEIGER, HOWARD PAUL D 060
2222 SELWYN AVE. A L/RT
CHARLOTTE 28207 704 376-1523

STEIN, JEANNETTE FISCHER IM 032
1301 FAYETTEVILLE ST. AC
DURHAM 27707 919 683-1316

STEINER, MICHAEL LEE OPH 064
3044 SUNSET AVE., STE. 100 AC
ROCKY MOUNT 27804 919 443-6129

STEINFELD, JOHN ROBERT DR 011
P. O. BOX 2959 AC
ASHEVILLE 28802 704 254-4617

STEKLOFF, SHELDON HARVEY AN 064
3741 SUNSET AVE. APT. A-1 A AC
ROCKY MOUNT 27804 919 937-4284

STEM, THEODORE B., JR. IM /NEP 000
1506 WOODVIEW DR. R
GREENSBURG, PA 15601 412 885-5448

STEPHENS, FREEMAN IRBY IM 011
54 SUNSET PARKWAY A L/RT
ASHEVILLE 28801 704 253-8178

STEPHENS, JAMES EDWARD GP 020
P. O. BOX 516 A AC
ROBBINSVILLE 28771 704 479-3392

STEPHENS, KATHRYN JOHNSON OBG 060
2230-B RANDOLPH RD. A AC
CHARLOTTE 28207 704 338-9752

STEPHENSON, ANNE ELIZABETH 034
725-A GALES AVE. A S
WINSTON-SALEM 27103 919 748-1783

STEPHENSON, BENNETTE EDWARD GP 066
P. O. BOX 348 A L/RT
RICH SQUARE 27869 919 539-2343

STEPHENSON, HENRY LOUIS, JR. IM /CD 007
615 E. 12TH STREET AC
WASHINGTON 27889 919 946-2101

STEPHENSON, JOHN HADDON 032
130 HOMESTEAD RD. A S
CHAPEL HILL 27514 919 968-6454

STEPP, HESTLEY DANARD PD 029
200 ARTHUR DRIVE A AC
THOMASVILLE 27360 919 475-2348

STERCHI, JOHN MICHAEL ON /GS 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4276

STERNBERGH, W.C.A. R 060
1300 REECE RD. APT. 419 A L
CHARLOTTE 28209

STERNER, DAVID CHARLES GS /OBG 034
3487 TANGLEBROOK TR. A S
CLEMMONS 27012 919 766-6117

STEUTERMAN, MARY CHRISTINE PTH 041
1200 N. ELM ST. A AC
GREENSBORO 27401 919 379-4074

STEVENS, ELLIOTT WALKER, JR. PUD /AI 041
1018 N. ELM STREET A AC
GREENSBORO 27401 919 275-7238

STEVENS, HUGH L. C. IM /GE 044
1600 N. MAIN STREET A AC
WAYNESVILLE 28786 704 452-5124

STEVENS, JAMES CONRAD GS 011
445 BILTMORE AVE., STE. 403 AC
ASHEVILLE 28801 704 253-4143

STEVENS, JAMES ROMER 074
3100 S. MANCHESTER #321 A R
FALLS CHURCH, VA 22044 703 671-9348

STEVENS, JOSEPH BLACKBURN IM /N 041
102 IRVING PARK CT. A L
GREENSBORO 27408 919 272-7292

STEVENS, ROBERT BRUCE AN 018
3430 5TH ST. DRIVE, NW A AC
HICKORY 28601 704 327-7443

STEVENS, WILLIAM ROSS 032
1707 WARD ST. A S
DURHAM 27707 919 496-3046

STEVENSON, JOHN SAMUEL R/NM 077
926 BIGGS BOULEVARD A P AC
ROCKINGHAM 28379 919 997-2595

STEVENSON, KARL CHP /P 032
2609 N. DUKE ST., STE. 103 A AC
DURHAM 27704 919 471-3487

STEVENSON, ROBERT MCL. R 049
743 SPRINGDALE RD., EAST A AC
STATESVILLE 28677 704 872-4306

STEWART, ALBERT, JR. IM 026
114 BROADFOOT AVENUE A AC
FAYETTEVILLE 28305 919 484-3365

STEWART, ANGELA GRACE PD 074
225 PEARL DRIVE AC
GREENVILLE 27834 919 355-3773

STEWART, DANIEL NIVEN,JR. FP 018
925 4TH AVE. DR. NW A L
HICKORY 28601 704 328-1212

STEWART, DAVID DUBOSE IM 026
114 BROADFOOT AVE. A AC
FAYETTEVILLE 28305 919 484-1156

STEWART, DOUGLAS WAYNE IM /NEP 018
516 LAURELWOOD CIRCLE, SE A AC
PO BOX 1020
LENOIR 28645 704 758-5544

STEWART, FRANCIS ASBURY FP 090
102 E. MARSHVILLE BLVD. A P AC
MARSHVILLE 28103 704 624-5889

STEWART, GEORGE TERRY OBG 065
2215 CANTERWOOD DRIVE AC
WILMINGTON 28401 919 343-1031

STEWART, JOHN REAGAN OTO /OPH 049
515 WALNUT ST. A L
STATESVILLE 28677 704 873-6376

STEWART, ROBERT DOUGLAS IM 032
1901 HILLANDALE ROAD A AC
DURHAM 27705 919 383-1518

STEWART, ROY ALLEN OPH 018
P. O. BOX 970 A L
NEWTON 28658 704 464-0982

STEWART, WILLIAM LEE PD 063
195 W. ILLINOIS AVE. A AC
SOUTHERN PINES 28387 919 692-2444

STICKEL, DELFORD LEFEW GS 032
BOX 3917, DUMC A AC
DURHAM 27710 919 684-6129

STIDHAM, GREGORY ALAN FP 023
1198 WYKE RD. A AC
SHELBY 28150 704 487-1148

STIEFEL, JOSEPH WALTER N 041
1910 N. CHURCH ST. A AC
GREENSBORO 27405 919 273-2511

STILES, EDDIE PHILLIPS FP 092
BOX A AC
APEX 27502 919 362-7353

STINSON, CHARLES S. IM 049
PO BOX 1460 AC
STATESVILLE 28677 704 878-2011

STINSON, HELEN MARIE PS 041
1219 MAGNOLIA STREET * AC
GREENSBORO 27401 919 272-3169

STIRMAN, JERRY ARCHIBALD, JR. GS /TS 092
1101 DRESSER COURT AC
RALEIGH 27609 919 876-2010

STITT, VAN JUNIUS, JR. FP /GER 026
1601 OWEN DRIVE A AC
FAYETTEVILLE 28304 919 323-1152

STOCKDALE, WAYNE HARROP EM /GS 096
2700 WAYNE MEM. DR. AC
GOLDSBORO 27530 919 736-1110

STOCKS, LEWIS HENRY, III GS /TS 092
1108 DRESSER COURT AC
RALEIGH 27609 919 876-2010

STOCKS, ROSE MARY SUTTON 074
406-B S. HARDING ST. A S
GREENVILLE 27834 919 758-3686

STOKES, THOMAS ANGIER, JR. GYN 032
2609 N. DUKE ST., STE. 102 A AC
DURHAM 27704 919 477-2183

STONE, GRADY MITCHELL IM 040
624 QUAKER LANE A AC
HIGH POINT 27262 919 883-4131

STONE, HARRY BENJAMIN, III OTO /A 025
709 PROFESSIONAL DR. A AC
PO BOX 2406
NEW BERN 28560 919 638-2666

STONE, KAREN E. FP 092
1974 CHANDALOR DR., APT. D AC
PELHAM, AL 35124

STONE, LISA MARIE 032
21 PRESTWICK PLACE A S
DURHAM 27705 919 286-2377

STONE, PERRY GALE PD 034
DALTON ROAD, P. O. BOX 426 A AC
KING 27021 919 983-2531

STONE, ROBERT THOMAS OTO 098
1704 S. TARBORO STREET A AC
WILSON 27893 919 291-7001

STONEBURNER, RICHARD GRESHAM GS 001
MEDICAL VILLAGE AC
BURLINGTON 27215 919 226-0400

STONEROCK, GRACE JANINE 034
1641-E NORTHWEST BLVD. A S
WINSTON-SALEM 27104 919 724-5446

STOPFORD, WOODHALL OM /IM 032
BOX 2914, DUMC A AC
DURHAM 27710 919 684-6677

STORCH, SAMUEL JAY U 063
PO BOX 2138 AC
PINEHURST 28374 919 295-5507

STORY, LLOYD JERRELL IM /CD 034
HAWTHORNE MED. PL. #260 A AC
1901 S. HAWTHORNE RD.
WINSTON-SALEM 27103 919 768-4460

STORY, STRATTON ROWLAND OTO 051
P. O. BOX 346 A AC
SMITHFIELD 27577 919 934-4355

STORY, WILLIAM AUGUSTUS R/IM 023
201 GROVER STREET A P AC
SHELBY 28150 704 487-0003

STORY, WILLIAM ROBERT U 060
1012 KINGS DRIVE A AC
CHARLOTTE 28283 704 334-6449

STOUT, CHARLES WALTER FP 076
1533 N. FAYETTEVILLE STREET AC
ASHEBORO 27203 919 672-0415

STOUT, JAMES STEVENS OM /EM 045
E.I. DUPONT DENEMOURS, INC. A AC
BREVARD 28712 704 885-5349

STOUT, ROBERT GREGROY 034
415 IRVING ST. A * S
WINSTON-SALEM 27103 919 723-9141

STOUT, WILLIAM ALLEN FP 024
P. O. BOX 675 A P AC
TABOR CITY 28463 919 653-2112

STOVER, JOHN OLIVER, JR. DR /NM 064
P. O. BOX 42 P AC
RED OAK 27868 919 443-8083

STOVER, PHILLIP E. FP 035
FRANKLIN FAMILY MEDICINE AC
519 N. BICKETT BLVD.
LOUISBURG 27549 919 496-5774

STOWE, CLEVELAND OPH 060
1600 E. THIRD ST. A AC
CHARLOTTE 28204 704 372-3300

STOWE, FRED REECE, JR. N/CHN 026
3314 MELROSE RD., STE. 102 AC
FAYETTEVILLE 28304 919 484-7405

STRADER, EUGENE RAY FP 029
901 E. CENTER STREET A AC
LEXINGTON 27292 704 249-1200

STRADER, HUNTER GORDON, JR. FP 029
2 CHERRY STREET A AC
LEXINGTON 27292 704 249-9626

STRADER, KYLE WOODROW RHU /A 092
3831 MERTON DR. A AC
RALEIGH 27609 919 781-9633

STRAIN, BRIAN MCCULLOUGH GS 023
ROANOKE MEMORIAL HOSPITAL A R
ROANOKE, VA 24014 703 951-7000

STRANGE, JOHN NELSON, JR. GS /VS 045
561 FLEMING ST. AC
HENDERSONVILLE 28739 704 693-1778

STRATAS, BYRON ARISTOTLE 000
25 25TH STREET A R
ISLE OF PALMS, SC 29451 803 886-8740

STRATAS, NICHOLAS EMANUEL P/HYP 092
3900 BROWNING PL. #201 A P AC
RALEIGH 27609 919 787-7125

STRATTON, IDA JANICE DEAS PD /PH 032
414 E. MAIN ST. AC
DURHAM 27701 919 682-8176

STRATTON, JAMES DAVID OPH 060
5150 SHARON ROAD A L/RT
CHARLOTTE 28210 704 554-7176

STRATTON, JOHN PERLEY IM /HEM 032
2609 N. DUKE ST., STE. 304 AC
DURHAM 27704 919 471-8446

STRAUSBAUCH, PAUL HENRY PTH 074
1717 MORNINGSIDE PLACE A AC
GREENVILLE 27834 919 551-2809

STRAWCUTTER, HOWARD E. U 078
PO BOX 1408 A * AC
LUMBERTON 28359 919 738-6441

STRECK, CHRISTIAN JOHN GS 041
311 W. WENDOVER AVE. A AC
GREENSBORO 27408 919 275-8415

STREET, MURDO EUGENE, JR. FP 063
P. O. BOX 38 A L/RT
GLENDON 27251 919 464-5315

STREETER, CHARLES TRUMAN FP 036
222 WOODRIDGE DR. A AC
BELMONT 28012 704 825-4426

STREETER, GREGORY DEAN FP /DIA 067
200 DOCTOR'S DR. SUITE H P AC
JACKSONVILLE 28540 919 353-0565

STRICKLAND, JAMES DONALD EM 001
97B DENISE DRIVE A AC
BURLINGTON 27215 919 228-0768

STRICKLAND, NIGEL JOHN DR 096
2700 MEDICAL OFFICE PLACE A AC
GOLDSBORO 27530 919 734-1866

STRICKLAND, WILLIAM HERMAN,JR. FP 045
510 FLEMING STREET AC
HENDERSONVILLE 28739 704 692-8410

STRIKE, WILLIAM K. 034
315 SUNSET DR. APT. #2 S
WINSTON-SALEM 27103 919 723-1491

STRINGER, LLEWELLYN WINN PUD 034
1728 S. HAWTHORNE ROAD AC
WINSTON-SALEM 27103 919 765-7517

STRINGFIELD, JAMES KING FP 044
P. O. BOX 900 A AC
WAYNESVILLE 28786 704 456-3222

STROPE, GERALD LELAND PD /PUD 032
UNC, 635 CLINICAL SCI. BLDG. AC
CHAPEL HILL 27514 919 966-1055

STROUP, T. SCOTT 032
108 STINSON ST. S
CHAPEL HILL 27514

STROUPE, ALBERTUS ULA, JR. GP 036
157 OAKLAND STREET A L/RT
MOUNT HOLLY 28120 704 827-4863

STUART, DENNIS O'GAREY FP 078
3580 FAYETTEVILLE RD. A AC
LUMBERTON 28358 919 521-2816

STUART, HAL MARTIN FP 086
180-C PARKWOOD DRIVE AC
ELKIN 28621 919 835-3613

STUBBS, ALLSTON JULIUS U 034
7932 LYNDHURST AVENUE * AC
WINSTON-SALEM 27103 919 765-4021

STUBER, ROBERT LEO PTH /DMP 063
MOORE MEMORIAL HOSPITAL A P AC
PINEHURST 28374 919 295-7135

STUCKEY, CHARLES LEGRAND IM 060
1515 ELIZABETH AVENUE A L
CHARLOTTE 28204 704 333-1116

STUCKEY, THOMAS DAVID IM 041
1101 BEARHOLLOW ROAD AC
GREENSBORO 27410 919 378-0774

STURKIE, H. RAY GYN 034
1365 WESTGATE CENTER DR. AC
SUITE 1-C
WINSTON-SALEM 27103

STUTESMAN, JAMES L. PM 018
343 SECOND ST. NW A AC
HICKORY 28601 704 322-1300

STYRON, CHARLES WOODROW IM /DIA 092
615 ST. MARY'S STREET A * L
RALEIGH 27605 919 828-7773

SUE, SAMUEL ARTHUR, JR. ORS 041
315 W. WENDOVER AVENUE A AC
GREENSBORO 27408 919 275-0724

SUGARMAN, JEREMY IM 032
28 JUSTIN CT. A R
DURHAM 27705 919 477-9435

SUGG, WILLIAM CASWELL, JR. IM /PUD 060
2711 RANDOLPH ROAD, SUITE 100 AC
CHARLOTTE 28207 704 373-0700

SUGG, WILLIAM CUNNINGHAM IM 034
2240 CLOVERDALE AVE., STE. 220 A P AC
WINSTON-SALEM 27103 919 723-4402

SUGIOKA, KENNETH AN 032
RT. #7, BAYBERRY DR. L/RT
CHAPEL HILL 27514 919 933-0487

SUGIOKA, MARY HINTERNHOFF PD 032
CCSDL, BSRC 220-H A AC
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514 919 966-5171

SUH, SANG HYON GS 012
P. O. BOX 266 A P AC
MORGANTON 28655 704 433-2235

SUITER, THOMAS B., JR. IM 064
100 NASH MEDICAL ARTS MALL AC
ROCKY MOUNT 27801 919 443-9084

SULLIVAN, DANIEL CARL R/P 032
BOX 3808, DUMC AC
DURHAM 27710 919 684-2711

SULLIVAN, DANIEL JAMES IM /OM 041
1601 PEBBLE DR. A AC
GREENSBORO 27410 919 855-1415

SULLIVAN, RAYMOND C.,JR. IM /AM 041
1511 WESTOVER TERRACE AC
GREENSBORO 27408 919 378-1461

SULLIVAN, ROBERT JOSEPH, JR. IM /FP 032
BOX 3003, DUMC A AC
DURHAM 27710 919 684-2248

SULLIVAN, WILLIAM GREGORY GS 092
3400 EXECUTIVE DR., STE. 104 A AC
P. O. BOX 17200
RALEIGH 27619 919 876-2732

SUMMERLIN, ARTHUR ROGERS OBG 092
2800 BLUE RIDGE BLVD. #401 * AC
RALEIGH 27607 919 781-5504

SUMMERLIN, HARRY HOLLER, JR. FP 011
944 TUNNEL ROAD A P * AC
ASHEVILLE 28805 704 298-3090

SUMMERLIN, ROBERT LEE FP 009
DUBLIN MEDICAL CLINIC A * AC
PO BOX 10
DUBLIN 28332 919 862-3528

SUMMERS, FRED DAVIDSON, JR. OBG 032
ROUTE #1, BOX 181 A RT
CHAPEL HILL 27514 919 929-2158

SUMNER, BRIAN MONTGOMERY 032
218 CEDARWOOD LANE A S
CARRBORO 27510 919 967-6473

SUMNER, ROBERT GRIST IM /CD 013
68 LAKE CONCORD ROAD, N.E. A AC
CONCORD 28025 704 782-3135

SUMNER, THOMAS EDWARD PDR /PD 034
BOWMAN GRAY, DEPT. OF RAD. A AC
WINSTON-SALEM 27103 919 748-4316

SUMPIO, BERNARDO D. EM /IM 082
209 FOX LAKE DRIVE A AC
CLINTON 28328 919 592-8847

SUMPTER, EDWIN ALLEN PD 042
BOX 848 AC
WELDON 27890 919 536-2557

SUNDBERG, THOMAS CLARKE RHU 060
1335 ROMANY ROAD A AC
CHARLOTTE 28204 704 375-1719

SUNDER, THEODORE RALPH CHN /N 074
ECU DEPT. OF PEDIATRICS A AC
GREENVILLE 27834 919 551-4772

SUNDERMAN, MICHAEL ROBERT FP 098
P. O. BOX 310 A AC
STANTONSBURG 27883 919 238-2101

SUPIK, LAWRENCE FRANCIS 074
207 N. JARVIS ST. A S
GREENVILLE 27834 919 752-7289

SURAL, RONALD FRANK U 041
1006 PROFESSIONAL VILLAGE A AC
GREENSBORO 27401 919 373-8323

SURRATT, JOHN PEELER D 082
603 BEAMON ST. A AC
CLINTON 28328 919 592-5583

SURRATT, ROBERT WALTER IM 013
56 ARDSLEY AVENUE, N.E. A * AC
CONCORD 28025 704 782-1101

SURRATT, WILSON FARRIS AN 023
507 COUNTRY CLUB ACRES AC
SHELBY 28150 704 482-5716

SUTHER, THOMAS CORNELIUS, JR. P/GP 063
MCCAIN HOSPITAL AC
MCCAIN 28361 919 944-2351

SUTTLE, EVELYN AMY PD 029
244 FAIRVIEW DRIVE AC
LEXINGTON 27292 704 246-4333

SUTTON, EDWARD COLMERY GYN 001
1616 MEMORIAL DRIVE AC
BURLINGTON 27215 919 227-7446

SUTTON, HOMER GEORGE FP 034
3722 REYNOLDA ROAD AC
WINSTON-SALEM 27106 919 924-2900

SUTTON, JULIAN T. GS /FP 064
DRAWER 100 A AC
SCOTLAND NECK 27874 919 826-3143

SUTTON, RICHARD LORING EM 060
5040 KIMBLEWYCK LANE AC
CHARLOTTE 28226 704 365-3076

SUTTON, SYLVIA 032
PO BOX 3574 A S
CHAPEL HILL 27515 919 967-7288

SUTTON, WILLIAM WAYNE FP 031
337 N. NORWOOD STREET AC
WALLACE 28466 919 285-2111

SUVILLAGA, VICTOR IVAN FP /EM 065
5097 EDINBORO LN. A AC
WILMINGTON 28403 919 395-6273

SVENSON, ROBERT HAROLD CD /IM 060
1960 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 373-1503

SWAIM, LINDIAN JOSEPH, JR. OBG 092
2500 BLUE RIDGE RD., STE. 219 A AC
RALEIGH 27607 919 782-9005

SWAN, BILL JOE AN 013
776 WILLIAMSBURG DRIVE A AC
CONCORD 28025 704 782-7638

SWANEY, PAUL EUGENE GS 049
1318 DAVIE AVE. AC
STATESVILLE 28677 704 872-0182

SWANN, EDWIN RUSSELL OPH 092
100 SUNNYBROOK RD. STE. 103 AC
RALEIGH 27610 919 833-8878

SWANTKOWSKI, THOMAS MARIAN IM /GE 063
205 PAGE RD. A * AC
PO BOX 519
PINEHURST 28374 919 295-5511

SWANTON, MARGARET CATHERINE PTH 082
P. O. BOX 1089 A P AC
CLINTON 28328 919 592-8511

SWEENEY, CHARLES LESLIE, JR. FP 092
P. O. BOX 17263 AC
RALEIGH 27619 919 787-5211

SWEENEY, CHARLOTTE A. OBG 032
RT. #2, BOX 195 R
CONOVER 28613

SWETENBURG, RAYMOND LEE, JR. PD 060
2711 RANDOLPH ROAD P AC
CHARLOTTE 28207 704 374-1736

SWIFT, MICHAEL RONALD IM 032
NCMH, BSRC 220-H AC
CHAPEL HILL 27514 919 966-2266

SWIFT, RONNIE GORMAN P 032
ROUTE #7, BOX 284 AC
CHAPEL HILL 27514 919 933-5857

SWING, DONALD CRAVER, JR. 074
213 STAFFORDSHIRE DR. A S
GREENVILLE 27834 919 756-6912

SWOFFORD, JOEL HOWARD 034
111 DALEWOOD DR. APT. #6 A S
WINSTON-SALEM 27104 919 723-9174

SYDNOR, CHARLES FORD OPH 001
1214 VAUGHN ROAD A * AC
BURLINGTON 27215 919 228-0254

SYKES, CHARLES LOUIS FP /IM 086
P. O. BOX 590 A L
MOUNT AIRY 27030 919 786-6105

SYKES, CHARLIE LOUIS, JR. IM 095
250 DOCTORS DRIVE AC
BOONE 28607 704 264-6362

SYKES, KASSELL EUGENE, JR. 032
306 ESTES DR., APT. G-11 A * S
CARRBORO 27510 919 942-8492

SYKES, LISA CAROL 032
204-A HOWELL ST. A S
CHAPEL HILL 27514 919 968-4727

SYPHER, ROBERT V., JR. HS /ORS 041
409-E PARKWAY DR. P AC
GREENSBORO 27401 919 378-0811

SZABO, JANET ROSE R 018
P. O. BOX 308 A AC
HICKORY 28603 704 322-2644

TABOR, CHARLES GORDON IM /EM 034
1360 PINEBLUFF ROAD A AC
WINSTON-SALEM 27103 919 765-9074

TACKETT, AMOS DARRELL GS 065
1414 MEDICAL CENTER DRIVE A AC
WILMINGTON 28401 919 763-7363

TAFT, CHARLES VAN ORS 034
1425 PLAZA DR., BOX 25007 AC
WINSTON-SALEM 27114 919 768-1270

TAFT, RICHARD CHESSON OBG 074
101 BETHESDA DRIVE A AC
GREENVILLE 27834 919 758-4181

AFT, TIMOTHY NED ORS 032
UNC, DIV. OF ORS A AC
CHAPEL HILL 27514 919 966-2039

AJ-ELDIN, ADNAN IM /A 067
200 DOCTOR'S DR. STE. I AC
JACKSONVILLE 28540 919 353-6327

ALBERT, LUTHER MARCUS OBG /END 032
N. C. MEMORIAL HOSPITAL AC
CHAPEL HILL 27514 919 966-5438

ALTON, DAVID SMITH 034
1995 HOODS CREEK DR. S
NEW BERN 28560

ALTON, INGEBORG HILDEBRAND AN 032
2725 MONTGOMERY ST. A AC
DURHAM 27705 919 684-3591

AMISIEA, J. RICHARD CD /IM 065
1202 MEDICAL CENTER DRIVE AC
WILMINGTON 28401 919 341-3301

AN, RICARDO MIJARES GS /ABS 065
2301 DELANEY AVENUE A AC
WILMINGTON 28403 919 763-0159

ANNEHILL, JOHN FRANKLIN OTO /HNS 044
120 HOSPITAL DRIVE A * AC
CLYDE 28721 704 452-1406

ANNEHILL, ROBERT BRUCE PD 080
720 GROVE STREET AC
SALISBURY 28144 704 636-5576

ANNER, DAUNE D. EM 034
1575 WATERFORD PLACE A R
FT. MILL, SC 29715

ANNER, KENNETH SPENCER, JR. GS 081
PO BOX 468 A L/RT
RUTHERFORDTON 28139 704 286-9036

ARA, CHARLES SAMUEL OPH 034
1702 S. HAWTHORNE ROAD A P AC
WINSTON-SALEM 27103 919 768-4140

ARLETON, HAROLD LEWIS FP /EM 063
PO BOX 649 A AC
WEST END 27376 919 673-2403

ARRY, WALLACE CLEMENTS 032
208 E. KNOX ST. A S
DURHAM 27702 919 693-3223

ARRY, WILLIAM BURWELL, JR. FP 039
104 NEW COLLEGE STREET A AC
OXFORD 27565 919 693-8126

ART, DAVID E. D/IM 018
24 SECOND AVENUE, N.E. A * AC
HICKORY 28601 704 328-6185

ART, JAMES ALVIN CD /IM 063
PINEHURST MED. CLINIC A AC
205 PAGE ROAD
PINEHURST 28374 919 295-5511

ART, JAMES MILTON, JR. OBG 060
MERCY MED. CTR. PARK AC
PINEVILLE 28134 704 376-3536

ATE, ALLEN DENNY, JR. FP 001
1610 VAUGHN ROAD AC
BURLINGTON 27215 919 226-4471

ATE, DAVID HARRISON PD 034
3175 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27103 919 768-7030

ATE, GEORGE WHALEY, JR. OPH 063
2170 MIDLAND ROAD A P AC
SOUTHERN PINES 28387 919 295-2100

ATE, WILLIAM CUMMINGS, II GS 006
P. O. BOX 68 A AC
BANNER ELK 28604 704 898-4221

ATUM, BEN SULLIVAN OBG 083
P. O. BOX 1599 A AC
LAURINBURG 28352 919 276-4432

AUBER, STUART DAVIS END 011
29 RAVENSCROFT DRIVE A AC
ASHEVILLE 28801 704 258-2404

AYLOE, DAVID THOMAS PD 007
608 E. 12TH STREET * AC
WASHINGTON 27889 919 946-4134

AYLOE, DAVID THOMAS, JR. PD 096
2706 MEDICAL OFFICE PLACE A P * AC
GOLDSBORO 27530 919 734-4736

AYLOE, JOHN COTTEN, JR. ORS 025
P. O. DRAWER 2604 P AC
MEDICAL ARTS CENTER
NEW BERN 28560 919 633-1635

AYLOE, JOSHUA OBG 007
614 E. 12TH STREET A AC
WASHINGTON 27889 919 946-6544

TAYLOR, ALLEN R 074
1711 W. 6TH ST. A AC
GREENVILLE 27834 919 752-5000

TAYLOR, ANDREW DUVAL A 060
2610 SELWYN AVENUE A L/RT
CHARLOTTE 28209 704 334-2397

TAYLOR, BLUCHER EHRINGHAUS OBG 034
2909 LYNDHURST AVENUE A AC
WINSTON-SALEM 27103 919 765-5470

TAYLOR, BRITTON EDGAR OBG 065
2215 CANTERWOOD DRIVE AC
WILMINGTON 28401 919 343-1031

TAYLOR, CATHERINE ANNE CHP /PD 032
NCMH, DIV. OF CHILD PSY. A AC
CHAPEL HILL 27514 919 966-2166

TAYLOR, FREDERICK HARVEY TS /CDS 060
1900 RANDOLPH RD. #206 A AC
CHARLOTTE 28207 704 372-1306

TAYLOR, JAMES EDWARD U 036
631 COX ROAD A AC
GASTONIA 28052 704 867-4896

TAYLOR, JAMES VAN, III FP 098
1704 S. TARBORO STREET A AC
WILSON 27893 919 291-7001

TAYLOR, JEFFREY SCOTT OPH 098
1704 S. TARBORO ST. A AC
WILSON 27893 919 291-7001

TAYLOR, JENNIFER ELAINE AN 032
BOX 3061, DUMC A AC
DURHAM 27710 919 684-2945

TAYLOR, JERRY JURGEN 074
2402-B E. THIRD ST. A S
GREENVILLE 27834 919 562-5174

TAYLOR, JIMMY LYNN FP 090
BOX 989 AC
MONROE 28110 704 283-1521

TAYLOR, JOHN BRUCE OBG 060
449 N. WENDOVER RD. A AC
CHARLOTTE 28211 704 376-0360

TAYLOR, JULIAN RALEIGH FP 008
MEDICAL ARTS CENTER AC
AHOSKIE 27910 919 332-3548

TAYLOR, MARSHALL CARNEY DR 007
608 E. 12TH STREET A AC
WASHINGTON 27889 919 946-2137

TAYLOR, MARY ANN HAMPTON FP 034
4450 GREEN MEADOWS AC
WINSTON-SALEM 27106 919 761-5218

TAYLOR, MICHAEL ALAN PD 092
4505 FAIR MEADOWS LN.STE. 101 AC
RALEIGH 27607 919 787-5495

TAYLOR, RICHARD ALLEN PD 090
901 OAK FOREST DRIVE AC
MONROE 28110 704 289-2556

TAYLOR, RICHARD LEWIS FP 039
1018 COLLEGE STREET A P * AC
OXFORD 27565 919 693-3972

TAYLOR, RUSSELL CARL IM /NEP 095
250 DOCTORS DRIVE AC
BOONE 28607 704 264-6362

TAYLOR, SHAHANE RICHARDSON, JR OPH 041
348 N. ELM STREET A P * AC
GREENSBORO 27401 919 274-4626

TAYLOR, THOMAS JEFFERSON GP 042
616 FRANKLIN STREET A L
ROANOKE RAPIDS 27870 919 537-6156

TAYLOR, THOMAS LEE DR 043
116 JONES DRIVE AC
DUNN 28334 919 892-7161

TAYLOR, VERNON WILLIAMS, JR. FP 086
815 N. BRIDGE STREET A L
ELKIN 28621 919 835-3425

TAYLOR, WILLIAM IVEY, JR. GP 065
ROUTE #3, BOX 3680 A RT
BURGAW 28425 919 259-2301

TAYLOR, WILLIAM RILEY ON /IM 018
690 FAIRGROVE CHURCH ROAD AC
P. O. BOX 3710
HICKORY 28603 704 324-9550

TEACHEY, HERMAN MCKINLEY 074
404 LAUREL ST. A * S
GREENVILLE 27834 919 758-4139

TEAFORD, MICHAEL JACOB PTH 011
ST. JOSEPH'S HOSPITAL A AC
ASHEVILLE 28801 704 255-3943

TEAGUE, RANDALL SCOTT DR /EM 076
837 OAKMONT DR. AC
ASHEBORO 27203 919 625-5151

TEAM, ROBERT ALSTON FP 029
2 CHERRY STREET AC
LEXINGTON 27292 704 246-4539

TEASLEY, BARRY HOYLE OPH 096
P. O. BOX 10907 A P * AC
103 COX BLVD.
GOLDSBORO 27532 919 734-8440

TEETER, ROBERT TENNANT OBG 016
#9 MEDICAL PARK A AC
MOREHEAD CITY 28557 919 726-0107

TEJANO, FELIPE MAZON U 054
KINSTON CLINIC,NORTH A P * AC
DOCTOR'S DRIVE
KINSTON 28501 919 527-3043

TELFER, JAMES GAVIN, JR. IM /FP 092
305 S. ACADEMY STREET * AC
CARY 27511 919 467-7528

TEMPLE, PETER LIVERMORE FP 033
101 CLINIC DRIVE A AC
TARBORO 27886 919 823-2105

TEMPLE, RUFUS HENRY, JR. OBG 065
2215 CANTERWOOD DR. A AC
WILMINGTON 28401 919 763-8471

TEMPLETON, THOMAS BREVARD IM 049
521 BROOKDALE DR. A AC
STATESVILLE 28677 704 872-3455

TENNANT, STANLEY NEAL CD 041
1011 PROFESSIONAL VILL. A P AC
GREENSBORO 27401 919 299-0111

TENNEY, JAMES BERNARD GPM /PH 011
32 HOYT ROAD A AC
ARDEN 28704 704 255-5671

TENNISON, MICHAEL BYRON CHN /PD 032
UNC SCHOOL OF MEDICINE A AC
751 BURNETT-WOMACK BLDG. 229-H
CHAPEL HILL 27514 919 966-2528

TENNYSON, GARY S. PTH 032
720 SHADY LAWN RD. A R
CHAPEL HILL 27514 919 929-8599

TEPLIN, STUART WARREN PD 032
UNC,DDDL/BSRC 220-H AC
CHAPEL HILL 27514 919 966-5171

TERRELL, GRACE EMERSON 032
11 BREMROSE CIR. A S
DURHAM 27705 919 493-3147

TERRELL, SARA ELDORA HAWORTH IM 040
624 QUAKER LN. STE. 207-C A * AC
HIGH POINT 27262 919 841-4233

TERRELL, THOMAS EUGENE IM 040
624 QUAKER LN., STE. 207-C A * AC
HIGH POINT 27262 919 841-4233

TERRY, ROY CLARENCE 032
4-L ESTES PARK APTS. A S
CARRBORO 27510 919 967-6485

TESTER, RICHARD DEAN R/NM 040
P. O. BOX 5007 A AC
HIGH POINT 27262 919 883-6716

TETA, JOSEPH MICHAEL GP 086
P. O. BOX 242 AC
ROARING GAP 28668 919 363-2349

THACKER, ROBERT KELLER FP 041
603 DOLLEY MADISON AC
GREENSBORO 27410 919 294-6190

THALINGER, ALAN ROBERT ON /IM 060
3535 RANDOLPH ROAD A AC
CHARLOTTE 28211 704 365-0760

THELAN, KENNETH MACLACHLAN IM 034
250 CHARLOIS BLVD. A AC
WINSTON-SALEM 27103 919 768-4730

THIELE, RONALD LEWIS PD /PH 074
503 QUEEN ANNE'S ROAD A AC
GREENVILLE 27858 919 756-6721

THIELMAN, NATHAN M. 032
2752 MIDDLETON AVE. APT. 31-J A S
DURHAM 27705 919 383-0025

THIERJUNG, CHRISTINA 032
1915 ERWIN RD. APT. D A S
DURHAM 27705 919 684-6369

THIGPEN, FRONIS RAY FP /PD 024
805 S. MADISON STREET A AC
WHITEVILLE 28472 704 642-6121

THOMAS, ACHAMMA IM 060
11005 HUNTOVER DR. A RT
ROCKVILLE, MD 20852 301 881-0229

THOMAS, ALAN EFIRD IM 065
SOUTHEASTERN MEDICAL GROUP AC
637 S. KERR AVENUE
WILMINGTON 28401 919 799-1810

THOMAS, BARBARA ANNE LOWRY P 034
2720 WINDY CROSSING A R
WINSTON-SALEM 27107 919 785-2073

THOMAS, BEN DAVID FP 092
P. O. BOX 247 AC
ZEBULON 27597 919 269-9111

THOMAS, COLIN EDWARD U 045
512 SIXTH AVENUE, WEST A AC
HENDERSONVILLE 28739 704 692-6262

THOMAS, COLIN GORDON, JR GS 032
UNC,BURNETT-WOMACK 229H A AC
CHAPEL HILL 27514 919 966-4597

†**THOMAS, DAVID PRYSE** ORS 065
ROUTE #3, BOX 303 A L/RT
WILMINGTON 28403 919 791-0650

THOMAS, EDWIN SCOTT IM 092
106 E. PARK ST. AC
CARY 27511 919 467-8168

THOMAS, FRANCIS THORNTON TS /GS 074
ECU DEPT. OF SURGERY A * AC
GREENVILLE 27834 919 551-2620

THOMAS, HENRY FULLER GS /CDS 036
902-G COX ROAD A AC
GASTONIA 28052 704 864-7821

THOMAS, JAMES JOSEPH PD 012
100 MEDICAL HEIGHTS DR. A AC
MORGANTON 28655 704 433-4484

THOMAS, MATHAI SOMAN AN 001
393 PORTSMOUTH CT. AC
BURLINGTON 27215 919 227-6711

THOMAS, MICHAEL BEMAN FP 065
1908 MEETING COURT AC
WILMINGTON 28401 919 762-1515

THOMAS, MILLARD BRADY, III 074
11-B STRATFORD ARMS A S
GREENVILLE 27834 919 756-2373

THOMAS, ROGER EDMUND FP 074
DEPT. OF FAMILY MEDICINE A AC
ECU SCHOOL OF MEDICINE
GREENVILLE 27834 919 551-2603

THOMAS, ROSEMARY ANN CD /IM 074
2000 VENTURE TOWER DR. AC
GREENVILLE 27834 919 551-4651

THOMAS, WILBUR CLYDE PTH 049
138 SIGNAL HILL DR. APT. 105 A AC
STATESVILLE 28677 704 872-5426

THOMAS, WILLIAM RALPH GP 070
RT. #3, BOX 476 AC
ELIZABETH CITY 27909 919 338-2480

THOMASON, HENRY CLAYTON, JR. CD /IM 036
1021 X-RAY DR. A P * AC
GASTONIA 28054 704 867-2341

THOMASON, MICHAEL HALE GS 060
PO BOX 32861 A AC
CHARLOTTE 28232 704 331-3176

THOMASON, ROBERT BRADLEY,III GS 034
N.C. BAPTIST HOSPITAL A R
300 S. HAWTHORNE RD.
WINSTON-SALEM 27103 919 748-2011

THOMLEY, ALAN MILES CD /IM 060
1960 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 373-1503

THOMPSON, ERVIN MAGNUS P 032
3643 N. ROXBORO ST. A AC
DURHAM 27704 919 470-6241

THOMPSON, FRANK ALAN GE /IM 011
W-18 DOCTORS BLDG. AC
ASHEVILLE 28801 704 252-2904

THOMPSON, FREDERICK A. IM /CD 014
322 MULBERRY ST., SW A AC
PO BOX 1020
LENOIR 28645 704 758-5544

THOMPSON, GEORGE R. C. FP 065
129 OLDE POINT RD. A L/RT
HAMPSTEAD 28443 919 270-2196

THOMPSON, JAMES NICHOLAS OTO /PSF 034
BOWMAN GRAY-SURGERY A AC
WINSTON-SALEM 27103 919 748-4161

THOMPSON, JOHN ALBERT, JR. D 060
2310 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 376-9849

THOMPSON, JOHN HARGETT FP 054
P. O. BOX 220 A RT
TRENTON 28585 919 448-4321

THOMPSON, KENNETH COCHRAN P 033
101 CLINIC DRIVE AC
TARBORO 27886 919 823-2105

THOMPSON, LAWRENCE KESLAR, III PS 032
2609 N. DUKE ST., STE. 401 A AC
DURHAM 27704 919 471-2502

THOMPSON, MARVIN WHITAKER PTH 078
P. O. BOX 847 A * AC
LUMBERTON 28359 919 738-6441

THOMPSON, OTIS RICHARD, JR. IM /CD 014
322 MULBERRY ST., SW A AC
PO BOX 1020
LENOIR 28645 704 758-5544

THOMPSON, WILLARD RAY OTO 080
102 MOCKSVILLE AVENUE A P AC
SALISBURY 28144 704 637-3344

THOMPSON, WILLIAM CECIL, III FP 018
210 13TH AVE. PL., NW AC
HICKORY 28601 704 322-7170

THOMPSON, WILLIAM KEITH PD 029
200 ARTHUR DRIVE AC
THOMASVILLE 27360 919 475-2348

THOMPSON, WINFIELD LYNN GS 096
216 S. HILLCREST DRIVE L/RT
GOLDSBORO 27530 919 734-2610

THOMPSON,WILLARD CHANDLER,JR. GS 060
3535 RANDOLPH RD., 201-W A AC
CHARLOTTE 28211 704 364-8100

THORNE, EDWARD YOUNG COX PD 098
1700 S. TARBORO ST. A AC
WILSON 27893 919 291-1300

THORNE, NORMAN ALAN R/NM 011
829-B THE OVERLOOK AC
719 EDWARD ST.
CHAPEL HILL 27514

THORNHILL, EDWIN HALE OTO /OPH 092
720 W. JONES STREET A L
RALEIGH 27603 919 834-7341

THORNHILL, GEORGE TUDOR OPH 092
720 W. JONES STREET L
RALEIGH 27603 919 834-7341

THORNTON, JACK WALKER OTO /HNS 018
P. O. DRAWER 2484 A AC
HICKORY 28601 704 322-3725

THORNTON, WILLIAM COOPER, JR. IM 076
132 W. MILLER STREET A AC
ASHEBORO 27203 919 625-3218

THORP, JAMES HORACE MERRIAM OBG 064
200 NASH MEDICAL ARTS MALL A AC
ROCKY MOUNT 27804 919 443-5941

THORP, LEWIS SUMNER FP /FP 064
100 MEDICAL ARTS MALL AC
ROCKY MOUNT 27801 919 443-9084

THORWARTH, WILLIAM T.,JR. DR /NM 018
CATAWBA RADIOLOGICAL ASSOC. A AC
P. O. BOX 308
HICKORY 28603 704 322-2871

THRASH, WILLIAM VIRGIL IM 011
147 ASHELAND AVENUE A * AC
ASHEVILLE 28801 704 258-1188

THULLEN, JAMES DONALD PD /NPM 092
2311 LAKE DRIVE AC
RALEIGH 27609 919 755-8545

THURBER, DAVID CUSHMAN, JR. IM 092
MEDI. DEP. DOROTHEA DIX HOSP AC
RALEIGH 27611 919 733-5157

THURMAN, ROGER ZALON GS 098
1700 S. TARBORO ST. A AC
WILSON 27893 919 291-1300

THURSTON, THOMAS GARDINER, II R/NM 080
P.O. DRAWER 2608 A * AC
SALISBURY 28144 704 636-0848

THURSTON, THOMAS GARDINER, III OBG 080
315 MOCKSVILLE AVENUE A * AC
SALISBURY 28144 704 636-9270

TICKLE, DEWEY REID R 098
WILSON MEMORIAL HOSPITAL A AC
WILSON 27893 919 399-8112

TIDLER, JAMES IM 065
1919 S. SIXTEENTH STREET AC
WILMINGTON 28401 919 763-8184

TIDWELL, JOHN WILLIAM, II OBG 060
1900 RANDOLPH ROAD AC
CHARLOTTE 28207 704 377-5675

TIEDEMAN, JAMES STUART OPH 032
BOX 3802, DUMC A AC
DURHAM 27710 919 684-3090

TILLETT, CHARLES WALTER, JR. OPH 060
2130 SHARON LANE A AC
CHARLOTTE 28211 704 372-3990

TILLEY, PAUL DONALD GP 014
P. O. BOX 5607 A AC
LENOIR 28645 704 758-2368

TILSON, HUGH H. GPM /PH 092
3030 CORNWALLIS RD. A AC
RESEARCH TRIANGLE PK 27709 919 248-4354

TIMMONS, PHILLIP ZACHARY 074
2402-B E. THIRD ST. A S
GREENVILLE 27834 919 488-8162

TIMMONS, ROBERT LANSING NS 074
125 MOYE BOULEVARD A * AC
GREENVILLE 27834 919 752-5156

TINGA, JOHN HINNES OBG 025
903 PINE TREE DRIVE AC
NEW BERN 28560 919 633-4005

TINGELSTAD, JON BUNDE PD /PDC 074
ECU, DEPT. OF PEDIATRICS A AC
GREENVILLE 27834 919 551-2540

TINSLEY, ELLIS ALLAN, SR. GS /TS 065
1414 MEDICAL CENTER DRIVE A * AC
WILMINGTON 28401 919 763-7363

TODD, STUART KITTREDGE GS 064
100 NASH MEDICAL ARTS MALL A P * AC
ROCKY MOUNT 27801 919 443-9084

TOFFOLO, RUDOLF RONALD R 023
GOLD RUN CT., RT. 5, BOX 87 A AC
KINGS MOUNTAIN 28086 704 739-3712

TOLENTINO, ANITA CHUA AN 060
6842 N. BALTUSTROL LANE AC
CHARLOTTE 28210 704 552-8511

TOLLEY, AUBREY GRANVILLE P 032
110 LAUREL HILL ROAD AC
CHAPEL HILL 27514 919 942-5754

TOLLIVER, JAMES BERT FP 029
510-A TURNER STREET AC
THOMASVILLE 27360 919 475-9171

TOLMIE, JOHN DUNCAN AN 034
1543 ABBEY COURT A AC
WINSTON-SALEM 27103 919 727-4271

TOLSON, ROGER JOHN IM 070
1134 N. ROAD STREET A AC
ELIZABETH CITY 27909 919 335-2963

TOLSON, TIMOTHY ALEXANDER 074
200 W. 8TH ST., APT. 5-D A * S
GREENVILLE 27858 919 752-2099

TOMLIN, EDWIN MERRILL U 013
102 LAKE CONCORD ROAD, N.E. A AC
CONCORD 28025 704 786-5131

TOMLINSON, ROBERT LEE, JR. OBG 098
1700 TARBORO STREET, EXT. A AC
WILSON 27893 919 291-9010

TOMSICK, ROBERT S. D 032
UNC, DEPT. OF DERMATOLOGY A AC
CHAPEL HILL 27514 919 966-4506

TOOLE, JAMES FRANCIS N/IM 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4101

TOOTHMAN, DONALD E. 000
487 47TH AVE. R
SAN FRANCISCO, CA 94121 415 387-5140

TOPPLE, ANE MARIE D 059
600-B MEDICAL COURT AC
MARION 28752

TOPPLE, STANLEY CRAIG ORS 059
600-B MEDICAL COURT A AC
MARION 28752 704 652-3310

TORREY, RICHARD KENDRICK FP 098
THE MIDDLESEX CLINIC A AC
P. O. BOX 100
MIDDLESEX 27557 919 235-4078

TORTORA, FRANK L.,JR. U 092
101 S. W. CARY PARKWAY AC
CARY 27511 919 467-3203

TOSKY, GEORGE MICHAEL OBG 092
3000 NEW BERN AVE. A AC
RALEIGH 27610 919 755-8535

TOVE, NANCY LOUISE FP 092
3100 BLUE RIDGE RD. AC
RALEIGH 27612 919 782-0146

)WNSEND, MURPHY FURMAN, JR. IM 041
1007 PROFESSIONAL VILLAGE A P AC
GREENSBORO 27401 919 272-2141

)WNSEND, ROBERT GLENN, JR. FP 047
405 S. MAIN ST. A * AC
PO BOX 665
RAEFORD 28376 919 875-5101

RACHMAN, JAYNE FELICIA 032
1909 YEARBY AVE., APT. F A S
DURHAM 27705 919 684-5588

RACHTENBERG, WILLIAM GP 096
239 S. HILLCREST DRIVE A L/RT
GOLDSBORO 27530 919 734-0956

RACY, JOHN WILLIAM FP 060
1618 E. MOREHEAD ST. AC
CHARLOTTE 28207 704 377-3610

RADO, CHARLES ELEMENDORF P/GP 018
IKERD BUILDING A P * AC
612 THIRD AVE., NE
HICKORY 28601 704 324-9900

RAMM, JEANNE NORGAARD AN 011
ST. JOSEPH'S HOSPITAL A * AC
ASHEVILLE 28801 704 252-1016

RAN, LUCAS VAN N 026
101 ROBESON ST. STE. 410 A AC
FAYETTEVILLE 28301 919 483-5050

RANT, CHARLES AMON, JR. 074
106 SCALES PL., A-8 A S
GREENVILLE 27834 919 830-1244

RAPASSO, ROBERT LOUIS PTH 077
P. O. BOX 1928 A AC
ROCKINGHAM 28379 919 997-2561

RASK, TODD WILSON 032
112 MOSS BARK LANE A S
CHAPEL HILL 27514 919 942-2319

RATHEN, WILLIAM THOMAS OBG 095
20 DOCTORS PARK AC
BOONE 28607 704 264-9067

RAVIS, JO MARLENE AN 032
45 HARDING AVENUE A R
BRANFORD, CT 06405 203 481-7026

RAYLOR, HENRY WILLIAM, JR. IM /EM 024
805 S. MADISON A AC
WHITEVILLE 28472 919 642-6121

READWELL, EDWARD LOUIS RHU /IM 074
ECU, DEPT. OF MEDICINE A AC
GREENVILLE 27834 919 551-2533

REMONT, STEPHEN J. ON 032
4420 LAKE BOONE TRAIL AC
REX CANCER CENTER
RALEIGH 27607

REVATHAN, G. EARL, JR. PD 074
ECU, AMBULOTORY PED. SECT. A * AC
GREENVILLE 27834 919 551-2535

RITICO, ROCCO JOSEPH DR 049
P. O. BOX 803 A AC
STATESVILLE 28677 704 872-4057

ROOST, B. TODD N/OPH 034
300 S. HAWTHORNE RD. A AC
DEPT. OF NEUROLOGY
WINSTON-SALEM 27103 919 748-4643

ROUGHT, WILLIAM STANLEY DR 074
19 BAYWOOD DRIVE A AC
WINTERVILLE 28590 919 752-5000

ROUTMAN, BAXTER SUTTLES GP 014
521 MT. VIEW ST. A L/RT
LENOIR 28645

ROUTMAN, BELK CONNOR GP 054
P. O. BOX 429 AC
GRIFTON 28530 919 524-4273

ROWELL, AMY REBECCA PD /PHO 034
250 CHARLOIS BOULEVARD A AC
WINSTON-SALEM 27103 919 768-4730

ROXLER, DAVID HAYS PUD 011
30 CHOCTAW ST. A AC
ASHEVILLE 28801 704 255-7733

ROXLER, EULYSS ROBERT ORS 041
2314 PRINCESS ANN ST. A L
GREENSBORO 27408 919 288-5521

RUESDALE, GERALD LYNN PS /GS 041
901 N. ELM ST. A AC
GREENSBORO 27401 919 274-2757

RUETT, ARTIS PRESTON, III 032
2672 HITCHCOCK DR. A S
DURHAM 27705 919 479-5299

RUJILLO, JAIME EMILIO IM /END 034
3111 MAPLEWOOD AVE., STE. 101 AC
WINSTON-SALEM 27103 919 768-0496

TRULUCK, THOMAS BRIAN OBG 025
903 PINE TREE DRIVE AC
NEW BERN 28560 919 633-4005

TRUSLOW, ROY EARL R 079
618 S. MAIN STREET A AC
REIDSVILLE 27320 919 349-8461

TSAI, GEORGE SHOU-CHYUAN GP 060
P. O. BOX 430 AC
INDIAN TRAIL 28079 704 821-7056

TSE, ALEX YU CHOW PD /A 067
120 MEMORIAL DRIVE A AC
JACKSONVILLE 28540 919 353-0581

TSE, ANDRE KON SANG CD /IM 067
144 MEMORIAL COURT A AC
JACKSONVILLE 28540 919 353-5111

TUCKER, DONALD HUGH IM /CD 074
1705 W. SIXTH STREET AC
GREENVILLE 27834 919 752-6101

TUCKER, GEORGE FRANKLIN FP 092
P. O. BOX 246 A AC
ZEBULON 27597 919 269-9144

TUCKER, GEORGE REGINALD, JR. FP 091
RUIN CREEK RD. STE. A A AC
HENDERSON 27536 919 492-3152

TUCKER, LANDRUM S., JR. PYA/CHP 032
FRANKLIN SQUARE, BLDG 900-A AC
CHAPEL HILL 27514 919 942-8716

TUCKER, PAUL CHAMBLISS, JR. GE /IM 060
NALLE CLINIC A AC
1350 S. KINGS DR.
CHARLOTTE 28207 704 372-8750

TUCKER, WALTER ROBERT FP 060
1618 E. MOREHEAD ST. AC
CHARLOTTE 28207 704 377-3610

TUCKER, WILLIAM BEVERLY FP 091
RUIN CREEK ROAD A * AC
HENDERSON 27536 919 492-3152

TUCKER, WILLIAM STUART, JR. IM /END 060
1350 S. KINGS DR. A AC
CHARLOTTE 28207 704 372-8750

TUCKER, WILLIAM YORK, JR. CDS 034
300 S. HAWTHORNE ROAD A AC
WINSTON-SALEM 27103 919 748-4487

TUGGLE, ALLAN DAVIS R 060
2335 FOREST DRIVE A L
CHARLOTTE 28211 704 366-4089

TUMEN, JON JAY IM /PUD 092
3100 BLUE RIDGE RD., STE. 300 A AC
RALEIGH 27607 919 781-7500

TURITTO, LOUIS ANTHONY GS 020
2 WHITAKER LANE A AC
ANDREWS 28901 704 321-5010

TURK, ROBERT SPENCER GS 011
3-D DOCTORS PARK A AC
ASHEVILLE 28801 704 258-8206

TURLINGTON, WADE ROBERT FP 067
200 DOCTOR'S DRIVE, SUITE M A AC
JACKSONVILLE 28540 919 353-8100

TURNER, CHARLES SIEWERS PDS 034
2819 FOREST DRIVE A P AC
WINSTON-SALEM 27104 919 724-0345

TURNER, HENRY CATLETT AN 034
300 S. HAWTHORNE RD. AC
WINSTON-SALEM 27103 919 748-4791

TURNER, JAMES ANGUS HS /ORS 000
2351 CLAY ST., STE. 510 A P AC
PACIFIC MEDICAL CTR.
SAN FRANCISCO, CA 94115

TURNER, LARRY OPH /OTO 032
1110 W. MAIN STREET A P L
DURHAM 27701 919 682-9341

TURNER, MURRAY WELLS IM /NEP 060
125 BALDWIN AVE. A AC
NORTH HILLS
CHARLOTTE 28204 704 338-6300

TURNER, ROBERT COY IM 074
ECU, DEPT. OF MEDICINE A AC
GREENVILLE 27858 919 551-4633

TURNER, WILLIAM BOMAR, III U 096
1604 E. MULBERRY ST. A AC
GOLDSBORO 27530 919 735-1635

TURNER, WILLIAM HARRISON, III D/IM 041
1030 PROFESSIONAL VILLAGE A * AC
GREENSBORO 27401 919 373-1384

TURPIN, JAMES WESLEY OM 32
231 FOREST HILL RD. A R
CHAPEL HILL 27514 919 942-4743

TUTTLE, MARLER SLATE, SR. FP 013
134 S. MAIN STREET A L
KANNAPOLIS 28081 704 932-7016

TWEED, JOHN LINDSEY 032
811 VICKERS AVE. A S
DURHAM 27701 919 688-0527

TYE, JOHN GAROLD OPH 014
401 MULBERRY ST., SW. A AC
LENOIR 28645 704 754-0561

TYNDALL, HUBERT DURWOOD GP 096
2400 WAYNE MEMORIAL DRIVE AC
GOLDSBORO 27530 919 734-4845

TYNER, HUGH EDWARD GS /TS 036
902-G COX ROAD A AC
GASTONIA 28054 704 864-7821

TYSINGER, JOHN REED CD /IM 041
1511 WESTOVER TERRACE AC
GREENSBORO 27408 919 373-1562

TYSON, JAMES WILLIAM FP 088
NEWLAND MEDICAL BUILDING A AC
BREVARD 28712 704 884-9030

TYSON, WOODROW WILSON IM /CD 040
1114 FERNDALE DRIVE A L
HIGH POINT 27260 919 882-6130

UELAND, FREDERICK RAND 034
1819 GRACE ST. A S
WINSTON-SALEM 27103 919 723-0070

UGLAND, DAVID NELS OPH 060
100 QUEENS RD. A P * AC
CHARLOTTE 28204 704 332-1156

UHLIN, STEPHEN RICHARD D/IM 040
624 QUAKER LANE, 302-B A P * AC
HIGH POINT 27262 919 885-8333

ULLRICH, CHRISTOPHER GEORGE DR 060
2631 ROTHWOOD DR. A AC
CHARLOTTE 28211 704 365-0343

UM, KI-BONG GP 007
P. O. BOX 625 A AC
ROBERSONVILLE 27871 919 795-4192

UMPHLET, THOMAS LEONARD IM 092
2519 WHITE OAK ROAD A L/RT
RALEIGH 27609 919 787-9650

UNDERHILL, THURLOW REED U 025
800 HOSPITAL DRIVE, STE. #4 A P AC
NEW BERN 28560 919 633-2712

UNGER, HENRY ALAN U 092
101 S. W. CARY PARKWAY P AC
CARY 27511 919 467-3203

UNSICKER, CARL LESTER ORS 065
5305-F WRIGHTSVILLE AVE. A AC
WILMINGTON 28403 919 395-0684

UPPIN, A. S. GS 029
400 E. CENTER STREET AC
LEXINGTON 27292 704 249-2991

URBANIAK, JAMES RANDOLPH ORS /HS 032
BOX 2912, DUKE HOSPITAL A AC
DURHAM 27710 919 684-2476

UTHE, WILLIAM FREDERICK IM 032
1901 HILLANDALE ROAD AC
DURHAM 27705 919 383-1518

VADNAIS, PAUL ALFRED AN 060
2308 WYTHE HOUSE CT. A P AC
CHARLOTTE 28226 704 364-9135

VALENCIA, RODOLFO CIRINEO IM 011
425-B U. S. HIGHWAY 70 A AC
SWANNANOA 28778 704 686-3881

VALERI, FRANK SCOTT CD /IM 060
2330 RANDOLPH RD. A AC
CHARLOTTE 28207 704 377-0575

VALK, HENRY LEWIS IM 034
300 S. HAWTHORNE RD. A P L
WINSTON-SALEM 27103 919 748-4677

VALONE, JAMES AUSTIN PS /GS 092
2800 BLUE RIDGE BLVD.,#304 A L
RALEIGH 27607 919 781-7430

VAN DYKE, ALLEN H., JR. OBG /GYN 032
2609 N. DUKE ST., STE. 204 A AC
DURHAM 27704 919 471-8402

VAN FLEET, WILLIAM VERNON P/CHP 023
802 N. LAFAYETTE ST. A AC
SHELBY 28150 704 482-7395

VAN NOORD, GLENN RICHARD FP 034
4020 DRESDEN DR. A AC
WINSTON-SALEM 27104 919 748-2230

VAN NYNATTEN, FRED H. IM /EM 065
1990 S. 16TH AC
WILMINGTON 28401 919 256-4555

VAN TASSEL, ERIC D. IM /CD 032
410 EDGELAND PLACE A R
BIRMINGHAM, AL 35209 919 942-4810

VAN-BLARICOM, LAWRENCE S. NS 011
445 BILTMORE AVE. A AC
ASHEVILLE 28801 704 258-8500

VAN-HOY, JOE MILTON GS 060
3735 ABINGDON ROAD A L/RT
CHARLOTTE 28211 704 364-5069

VAN-VELSOR, HARRY D 065
1924 S. SIXTEENTH STREET A AC
WILMINGTON 28401 919 762-5207

VANCE, SHELBY WILLIAM GP 006
BOX 70 A L
PINEOLA 28662 704 733-2788

VANCE, THOMAS DOYLE DR 095
904 STATE FARM ROAD A AC
PO BOX 1097
BOONE 28607 704 264-6984

VANDENBOSCH, GERALD C. ORS 098
1704 S. TARBORO ST. A AC
WILSON 27893 919 291-7001

VANDER VEER, CRAIG ANDREW NS 060
1010 EDGEHILL A AC
CHARLOTTE 28207 704 376-1605

VANDERBEEK, RANDALL B. U 011
100 VICTORIA RD. A AC
ASHEVILLE 28801 704 254-8883

VANDERSEA, HAROLD MARK ORS 025
800 HOSPITAL DRIVE A AC
NEW BERN 28560 919 638-8113

VANDERWERF, JOSEPH NELSON FP 045
611 FIFTH AVE., WEST AC
HENDERSONVILLE 28739 704 692-5068

VANDIVER, THOMAS JACKSON OBG 060
150 PROVIDENCE ROAD A AC
CHARLOTTE 28207 704 377-0461

VANDIVIERE, H. MAC PUD /PD 032
U. OF KENTUCKY, PED. MN 102 A AC
LEXINGTON, KY 40536 606 233-5857

VANN, ROBERT LEE PD /PA 092
GLAXO, INC.P.O.BOX 13960 A * AC
RESEARCH TRIANGLE PK 27709 919 248-2100

VARGAS, CARLOS ABRAHAM DR 036
P. O. BOX 1495 A AC
GASTONIA 28052 704 864-4378

VARIA, INDIRA MAHESH P 032
BOX 3857, DUMC AC
DURHAM 27710 919 929-6726

VARIA, MAHESH AMRATLAL TR 032
RADIATION ONCOLOGY-UNC A AC
NCMH BASEMENT
CHAPEL HILL 27514 919 966-1101

VARNER, D. WAYNE PTH 065
346 HONEYCUTT DR. * AC
WILMINGTON 28403 919 395-8177

VARNEY, DAVID ALLEN U/GS 096
305 WILLOW PLACE A * AC
GOLDSBORO 27530 919 778-6549

VARTANIAN, VARTAN AN 032
23 CLOVER PL. A RT
DURHAM 27705 919 684-6841

VATZ, BENJAMIN IM 041
1904 N. CHURCH STREET A AC
GREENSBORO 27405 919 274-3241

VAUGHAN, DANIEL PATRICK IM /ADL 032
UNC, STUDENT HEALTH AC
CHAPEL HILL 27514 919 966-2281

VAUGHAN, EDWIN WARNER IM /RIP 041
2632 WALKER AVENUE A L/RT
GREENSBORO 27403 919 299-7909

VAUGHAN, ROBERT WILLIAM AN 032
101 BARNHILL PLACE A * AC
CHAPEL HILL 27514 919 966-5136

VAUGHN, DONALD EUGENE EM /FP 092
120 WIND CHIME COURT A AC
RALEIGH 27615 919 847-8821

VAUGHN, RICHARD SIDNEY FP 074
P. O. BOX 1966 A AC
GREENVILLE 27834 919 752-7133

VAUGHN, TOM JIMISON, JR. OBG 086
708 S. SOUTH ST. AC
MOUNT AIRY 27030 919 786-4522

VAUGHT, WILLIAM WAYNE, JR OTO /HNS 001
1206 VAUGHN ROAD A P AC
BURLINGTON 27215 919 226-0660

VEAZEY, ALEX H., JR. FP 045
1228 CHANTELOUP DR. A RT
HENDERSONVILLE 28739 704 693-6124

VEAZEY, DANIEL BURT FP 045
611 FIFTH AVE., WEST AC
HENDERSONVILLE 28739 704 692-7111

VELAT, CLARENCE ANTHONY PTH /CLP 040
406 CASCADE CT. A AC
HIGH POINT 27260 919 884-6065

VENTERS, GEORGE COLE ORS 092
3410 EXECUTIVE DRIVE A AC
RALEIGH 27609 919 872-5296

VENTERS, WAYNE BURNETTE ORS 067
200 DOCTOR'S DRIVE, SUITE J A P AC
JACKSONVILLE 28540 919 353-1412

VERELL, KAREN LEA PD /ADL 067
12 OFFICE PARK DR. A AC
JACKSONVILLE 28540 919 353-6262

VERHOEFF, DIRK PUD 060
SEASIDE SPARROW 12 A L/RT
HILTON HEAD ISLAND, SC 29928 803 671-2665

VERMEULEN, FRED DONALD CRS /GS 060
2028 RANDOLPH ROAD A P AC
CHARLOTTE 28207 704 333-1259

VERNER, HUGH DAVID IM 060
212 S. TRYON ST., STE. 1500 A AC
CHARLOTTE 28281 704 365-0760

VERNON, CHARLES ROBERTSON P 065
7230 WRIGHTSVILLE AVENUE A P * AC
WILMINGTON 28403 919 256-4106

VERNON, JAMES TAYLOR P 012
P. O. BOX 1139 A AC
MORGANTON 28655 704 437-4642

VERNON, MICHAEL STEPHEN FP 074
PO BOX 1846 A AC
GREENVILLE 27834 919 551-4614

VERROSS, WILLIAM EDWARD OBG 060
1023 EDGEHILL ROAD, S. A AC
CHARLOTTE 28207 704 373-1541

VESANO, JACK LEE ORS 060
225 HAWTHORNE LN. #205 A AC
CHARLOTTE 28204 704 334-0809

VEST, HOWARD RYLAND, JR. AN 092
RALEIGH ANESTHESIA ASSOC. A * AC
P. O. BOX 18139
RALEIGH 27619 919 781-7420

VETTER, JOHN STANLEY FP 077
P. O. BOX 308 AC
ROCKINGHAM 28379 919 895-9075

VICK, HENRY VERNELL FP 033
101 CLINIC DRIVE AC
TARBORO 27886 919 823-2105

VICK, JOHN BERNARD TS /GS 074
#10 DOCTOR'S PARK A AC
GREENVILLE 27834 919 758-1747

VICK, WILLIAM WOODROW PTH 032
214 TALLYHO TRAIL A S
CHAPEL HILL 27514 919 933-5531

VIDAILLET, HUMBERTO JESUS, JR.
2403 ALPINE ROAD R
DURHAM 27707 919 489-8639

VIETA, PAUL ANTHONY OBG 026
911 HAY ST. A AC
PO BOX 53514
FAYETTEVILLE 28305 919 485-1191

VIGLIONE, CHERYL ANNE DR /GP 032
213 NORTHWOOD DR. A AC
CHAPEL HILL 27514 919 942-3196

VIJAYA, LINGA U 091
RUIN CREEK ROAD AC
HENDERSON 27536 919 492-8711

VILLANI, PETER LOUIS GS /CDS 078
33 TRINITY DRIVE A AC
LUMBERTON 28358 919 738-8556

VINOD, SHEELA UDAYAN PTH 041
DRAWER X-3 A P AC
GREENSBORO 27402 919 854-6454

VINSON, DANIEL CASTILE FP 006
P.O. BOX 837 AC
BANNER ELK 28604 704 898-5026

VISER, PAUL EDWARD IM 000
6704 ROCKWOOD RD. A R
LITTLE ROCK, AR 72207 501 663-9386

VISSER, PHILIP ALBERT GS /CRS 060
2115 E. 7TH ST., STE. 104 A P * AC
CHARLOTTE 28204 704 333-1574

VISSER, VALYA ELIZABETH NPM /PD 060
DEPT. OF PEDIATRICS * AC
CHARLOTTE MEM. HOSP. BOX 32861
CHARLOTTE 28232 704 338-3156

VOCI, VINCENT EUGENE PS /HS 036
902 COX RD., STE. B A P AC
GASTONIA 28054 704 867-5852

VOGEL, JOSEPH VINCENT PTH 018
ROUTE #2, BOX 197 A AC
CONOVER 28613 704 322-3821

VOGLER, JAMES BREVARD, III DR 032
BOX 3808, DUMC AC
DURHAM 27710 919 684-2711

VOIGT, WARD LANDIS GS 021
CHOWAN MEDICAL CENTER A AC
EDENTON 27932 919 482-2116

VOLK, JAMES VICTOR PD 045
722 W. FIFTH AVE. AC
HENDERSONVILLE 28739 704 693-3296

VOLKMAN, ALVIN PTH 074
ECU, BRODY 7E, 124 A AC
GREENVILLE 27834 919 551-2804

VOLKMER, DONALD DURHAM IM 029
OLD 29-70 SOUTH AC
P. O. BOX 579
LEXINGTON 27292 704 249-7785

VOLLMER, DONALD HENRY IM 011
RT. #1, CROSS CREEK COVES A L/RT
ANDREWS 28901 704 321-5615

VREELAND, WALLING D., JR. GP 034
3910 COUNTRY CLUB ROAD A AC
WINSTON-SALEM 27104 919 765-0170

VUKOSON, MATTHEW BRUCE FP 032
UNC, STUDENT HEALTH SERVICE AC
CHAPEL HILL 27514 919 966-2281

WACHTER, FRANCIS WILFRED PTH 060
PO BOX 33549 A * AC
CHARLOTTE 28233 704 371-4814

WADDELL, BRAD EDWARD 034
204 PERSHING AVE., SW S
WINSTON-SALEM 27103 919 725-2939

WADE, EUGENE HENRY PETER FP 001
723 EDITH STREET AC
BURLINGTON 27215 919 229-4791

WADSWORTH, GEORGE HENRY GS 008
P. O. BOX 27 A L/RT
AHOSKIE 27910 919 332-2215

WADSWORTH, JOSEPH A.C. OPH 032
1830 HILLANDALE RD. A L
DURHAM 27705 919 383-5531

WAGGONER, LONNIE AUSTINE, JR. IM 036
2522 SHEFFIELD DR. A RT
GASTONIA 28054 704 865-5486

WAGONER, DAVID KIRK PD 060
332 LILLINGTON AVENUE AC
CHARLOTTE 28204 704 376-4493

WAHBEH, CAMILLE JAMIL OBG 026
1601-B OWEN DRIVE A AC
FAYETTEVILLE 28304 919 323-1152

WAINER, HOWARD SCHEYER IM /GE 041
1904 N. CHURCH STREET A AC
GREENSBORO 27405 919 274-3241

WAIVERS, LEO EDWARD IM 074
ECU SCHOOL OF MEDICINE A AC
DEPT. OF MEDICINE
GREENVILLE 27834 919 551-4633

WALDENBERG, LEOPOLD MARK GS 092
3400 EXECUTIVE DR. STE. 104 A AC
P. O. BOX 17200
RALEIGH 27619 919 876-2732

WALDMAN, GARY DAVID D 090
1307 E. FRANKLIN ST. A AC
MONROE 28110 704 289-9448

WALHA, GURMUKH SINGH ORS /HS 076
542 WHITE OAK STREET A AC
ASHEBORO 27203 919 629-4171

WALKER, ANDREW WILLIAM PS /HS 060
2215 RANDOLPH ROAD A * AC
CHARLOTTE 28207 704 372-6846

WALKER, ANNE ENGLISH PD 060
226 BALDWIN AVENUE AC
CHARLOTTE 28207 704 332-8139

WALKER, DANA SHERRICK FP 034
2100 BRICKHAVEN DR. A R
GREENSBORO 27407

WALKER, DAVID ANTHONY OPH 063
TOWN/COUNTRY SHOPPING CTR A AC
ABERDEEN 28315 919 944-7196

WALKER, ELMER PIXLEY GYN 065
20 FOREST HILLS DR. A L/RT
WILMINGTON 28403 919 763-2946

WALKER, HARRY GORDON FP 049
310 DAVIE AVENUE A AC
STATESVILLE 28677 704 873-3269

WALKER, JAMES LYSLE 034
2353 QUEEN ST. #D A S
WINSTON-SALEM 27103 919 722-9268

WALKER, JOHN BARRETT, JR. GP 001
MEDICAL VILLAGE AC
BURLINGTON 27215 919 228-8333

WALKER, JOHN BARRETT,III IM 001
MEDICAL VILLAGE, SUITE K P * AC
BURLINGTON 27215 919 226-7384

WALKER, JOSEPH EDWARDS FP /AI 023
EDWARD CLINIC A P AC
RT. #3, BOX 146
LAWNDALE 28090 704 538-8616

WALKER, LAWRENCE CRUMPLER, JR. OBG 034
2927 LYNDHURST AVENUE A AC
WINSTON-SALEM 27013 919 765-9350

WALKER, PAUL CREASY FP 045
510 FLEMING ST. AC
HENDERSONVILLE 28739 704 693-7287

WALKER, PHILLIP JACKSON NEP /IM 060
928 BAXTER ST. A AC
CHARLOTTE 28204 704 374-1321

WALKER, PRESTON ALMAND CHP /P 092
TAYLOR HALL A AC
DOROTHEA DIX HOSPITAL
RALEIGH 27611 919 733-5130

WALKER, RICHARD ISLEY IM /HEM 032
N. C. MEMORIAL HOSPITAL AC
CHAPEL HILL 27514 919 966-4546

WALKER, THOMAS ENGLISH PD 060
226 BALDWIN AVENUE A AC
CHARLOTTE 28204 704 332-8139

WALKER, WILLIAM ALFRED CRS /GS 060
2028 RANDOLPH RD. A * AC
CHARLOTTE 28207 704 333-1259

WALKER, WILLIAM RAY P 074
3109 GORDON DRIVE A AC
GREENVILLE NC 27858 919 551-2661

WALKER, WILLIAM THOMAS FP 034
202 S. CHERRY ST. A L/RT
KERNERSVILLE 27284 919 993-2011

WALKER, WILLIAM THOMAS, JR. IM 016
#5 MEDICAL PARK A * AC
MOREHEAD CITY 28557 919 726-9091

WALKER, WILLIAM WAYNE ASHHURST D 079
608 LINDEN DR. A AC
EDEN 27288 919 627-8585

WALL, JACK GARDNER DR 001
ROUTE #4, BOX 682 AC
GRAHAM 27253 919 226-0198

WALL, ROSCOE LEGRAND, JR. GYN /END 034
440 SHERWOOD FOREST ROAD A L/RT
WINSTON-SALEM 27104 919 765-3383

WALL, WILLIAM STANLEY GP 064
330 S. W. MAIN STREET A P L
ROCKY MOUNT 27801 919 446-4952

WALLACE, ANDREW G. CD 032
BOX 3708, DUMC A AC
DURHAM 27710 919 684-5414

WALLACE, DONALD KAI IM /GE 063
205 PAGE ROAD A * AC
PINEHURST 28374 919 295-5511

WALLACE, JOHN MORRIS PTH 084
P. O. BOX 1489 A * AC
ALBEMARLE 28001 704 982-0148

WALLACE, KELLEY, JR. PS /GS 007
330 N. MARKET ST. A AC
CHOCOWINITY 27817 919 946-2223

WALLACE, ROBERT BRUCE EM 036
3101 ANDOVER CIRCLE A AC
GASTONIA 28054 704 867-2580

WALLENBORN, PETER AMBROSE,III OTO 011
4 LYNNWOOD ROAD A * AC
ASHEVILLE 28804 704 252-1853

WALLENHAUPT, STEPHEN L. CDS 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-2281

WALLER, BRENDA SUE 034
408-B SPAUGH ST. R
WINSTON-SALEM 27101

WALLER, LOUIS CLINTON FP 011
1425 PATTON AVENUE A L/RT
ASHEVILLE 28806 704 252-8341

WALLER, ROBERT JOSEPH TR 011
200 DOCTOR'S BUILDING A AC
ASHEVILLE 28801 704 255-4100

WALLER, TED JAMES ORS 095
30 DOCTOR'S PARK A P AC
BOONE 28607 704 264-1100

WALLEY, BRUCE DOUGLAS CD /CDS 034
2827 LYNDHURST AVE. STE. 205 AC
WINSTON-SALEM 27103 919 768-9535

WALLIN, GENE AMBROSE FP 010
1004 N. HOWE ST. A AC
SOUTHPORT 28461 919 457-6214

WALLS, BERTRAM EMMANUEL OBG 026
1774 METROMEDICAL DRIVE A AC
FAYETTEVILLE 28304 919 323-4155

WALSH, CARLE DOUGLAS D 080
921 CONFEDERATE AVENUE A * L/RT
SALISBURY 28144 704 636-2466

WALSH, EMMETT JAMES, JR. U 074
2 DOCTOR'S PARK A AC
GREENVILLE 27834 919 752-5077

WALSH, ZANE THOMAS, JR. PM 074
4801 LEONARD PARKWAY A R
RICHMOND, VA 23226

WALSTON, ABE, II CD /IM 032
306 S. GREGSON STREET A AC
DURHAM 27705 919 682-5561

WALTER, PAUL ANDREW, JR. AN 034
2832 FAIRMONT ROAD A AC
WINSTON-SALEM 27106 919 768-7680

WALTERS-SCHERRER, BARBARA A. 032
417 COLONY WOODS DR. A R
CHAPEL HILL 27514 919 968-4652

WALTERS, BRADFORD BLAIR NS 032
UNC-NEUROSURGERY A * AC
BURNETT-WOMACK BLDG 229H
CHAPEL HILL 27514 919 966-1374

WALTERS, HENRY CEPHAS, JR. IM 049
509 BROOKDALE DR. A P * AC
STATESVILLE 28677 704 872-6343

WALTERS, HEZEKIAH GROVER, JR. GS 024
711 N. THOMPSON STREET A AC
WHITEVILLE 28472 919 642-3214

WALTHER, PHILIP JOHN U 032
BOX 3314, DUMC A AC
DURHAM 27710 919 684-5235

WALTON, CAREY JAMES, JR. IM /GE 014
P. O. BOX 1020 L/RT
322 MULBERRY ST., SW
LENOIR 28645 704 758-5544

WALTON, GEORGE BRITAIN, JR. R/NM 024
P. O. BOX 345 A AC
CHADBOURN 28431 919 642-8011

WALTON, RICHARD FRANK FP 011
491 BILTMORE AVE. A AC
ASHEVILLE 28801 704 258-0635

WANNAMAKER, EDWARD JONES IM 060
RT. #3, BOX 250 L/RT
CHARLOTTE 28210 704 372-5125

WARBURTON, KEELING ALFRED OBG 040
P. O. BOX 5128 A AC
HIGH POINT 27262 919 887-3011

WARBURTON, MARK JOSEPH ORS 040
624 QUAKER LANE, SUITE D-200 AC
HIGH POINT 27262 919 885-5095

WARBURTON, SAMUEL WOODWARD,JR. FP 032
407 CRUTCHFIELD STREET AC
DURHAM 27704 919 471-4421

WARD, D. E., JR. GS 078
2604 N. ELM STREET A P * AC
LUMBERTON 28358 919 738-4276

WARD, DEMMING MORTON IM 080
319 MOCKSVILLE AVENUE A * AC
SALISBURY 28144 704 637-3538

WARD, JOHN CHARLES OM 054
410 LAKE PINES DRIVE A RT
LAGRANGE 28551 919 566-3119

WARD, JOHN THOMAS OPH 092
3100 BLUE RIDGE RD., STE. 200 A AC
RALEIGH 27612 919 787-2211

WARD, JOSEPH MAJOR FP /GER 074
121 W. POWER STREET AC
AYDEN 28513 919 746-3191

WARD, MICHAEL MUNDY EM 065
520 SHANDY LANE AC
WILMINGTON 28403 919 791-2059

WARD, SIMON V., III OBG 060
2711 RANDOLPH RD. STE. 305 AC
CHARLOTTE 28207 704 372-8020

WARD, WALTER AVEREL, JR. OTO /A 034
1411-B PLAZA WEST RD. A * AC
WINSTON-SALEM 27103 919 760-0240

WARD, WILLIAM ALAN ORS 060
120 PROVIDENCE RD. A AC
CHARLOTTE 28207 704 377-0351

WARD, WILLIAM GOODE ORS 032
21 GORHAM PLACE A R
DURHAM 27705 919 383-9667

WARDEN, CLARK GERARD GS 032
212 CEDARWOOD LANE A R
CARRBORO 27510 919 967-9414

WARLICK, JOHN THOMAS, III U 036
631 COX ROAD A AC
GASTONIA 28052 704 864-7764

WARNER, CHARLES ERNEST PD 060
1700 ABBEY PLACE A AC
CHARLOTTE 28209 704 523-7232

WARNER, JEANETTE PRESTON 065
206 W. BLACKBEARD ROAD A AC
WILMINGTON 28403 919 343-7000

WARNER, MARK FRANCIS CD /IM 065
1202 MEDICAL CENTER DR. A AC
WILMINGTON 28401 919 763-8251

WARREN, CASPER CARL, JR. AN 060
RT. #6, BOX 368 A AC
MOORESVILLE 28115 704 664-1640

WARREN, HAROLD DRAPER IM 026
2333 ROLLING HILLS ROAD A AC
FAYETTEVILLE 28304 919 484-1735

WARREN, JEFFERY STEVEN EM /GS 032
C/O W. JEFF WARREN A R
227 W. MARSH ST.
SALISBURY 28144

WARREN, JOSEPH BENJAMIN GP 025
203 PINE ROAD A * AC
NEW BERN 28560 919 637-5888

WARREN, JULIAN MARION FP 064
P. O. BOX 1120 * AC
SPRING HOPE 27882 919 478-4600

WARREN, LARRY E. IM 092
503 SUNNYBROOK ROAD AC
RALEIGH 27610 919 755-8394

WARREN, MELINDA BAREFOOT OBG 074
528 SUWANEE CIRCLE A R
DAVIS ISLAND
TAMPA, FL 33606

WARREN, THOMAS LARRY OBG 018
PO BOX 2227 A AC
HICKORY 28603 704 322-4920

WARREN, THOMAS LINSON AN 060
4401 COLWICK RD., STE. 702 AC
CHARLOTTE 28211 704 379-5943

WARSHAUER, ALBERT DAVID AN 074
1608 E. FIFTH STREET A RT
GREENVILLE 27858 919 752-5296

WARSHAUER, SAMUEL EDWARD IM /CD 065
1514 DOCTORS CIRCLE A L
WILMINGTON 28401 919 762-1813

WARWICK, HIGHT CLAUDIUS AN 041
2320 KIRKPATRICK PLACE A L/RT
GREENSBORO 27408 919 272-4220

WASHBURN, HARRILL GENE FP 023
P. O. BOX 815 AC
BOILING SPRINGS 28017 704 434-2281

WASHBURN, WILLARD WYAN GP /FP 023
P. O. BOX 795 A L/RT
BOILING SPRINGS 28017 704 434-7910

WASHINGTON, JOHN LANGTRY OBG /FP 001
316 GRAHAM-HOPEDALE RD. AC
BURLINGTON 27215 704 739-7445

WASHINGTON, MARY KAY PTH 032
503 E. TRINITY AVE. A S
DURHAM 27701 919 688-0297

WASSEL, JOHN JOSEPH ORS 013
PO BOX 1606 A AC
CONCORD 28026 704 788-3155

WATANABE, TSUNEO KENT OTO /HNS 092
101 S. W. CARY PARKWAY A AC
CARY 27511 919 467-7380

WATERS, DEAN GALE OBG 086
708 S. SOUTH STREET AC
MOUNT AIRY 27030 919 786-4522

WATERS, ZACK JAMES, JR. GS 007
604 E. 12TH STREET A AC
WASHINGTON 27889 919 946-9004

WATKINS, CARLTON GUNTER PD 060
3500 ELLINGTON STREET A AC
CHARLOTTE 28211 704 372-7790

WATKINS, GLEN LEE GP 000
BOX 804 NSGA A R
FPO MIAMI, FL 34053 809 795-7380

WATKINS, WALTER DAVID AN /PA 032
BOX 3081, DUMC A AC
DURHAM 27710 919 681-2498

WATSON, DAVID WILLIAM U 060
1900 RANDOLPH RD., STE. 506 AC
CHARLOTTE 28207 704 375-2544

WATSON, JAMES MORRIS ORS 070
1134 N. ROAD STREET A AC
ELIZABETH CITY 27909 919 338-3993

WATSON, JERRY FRANKLIN GS 097
EIGHTH ST. A AC
PO BOX 789
N. WILKESBORO 28659 919 667-1183

WATSON, JOHN WILLIAM FP 039
104 NEW COLLEGE STREET A AC
OXFORD 27565 919 693-8126

WATSON, NAT ERSKINE, JR. NM /IM 034
766 OAKLAWN AVENUE A AC
WINSTON-SALEM 27104 919 748-3520

WATSON, RICHARD BALDWIN AN 032
816 ARCHDALE DR. A R
DURHAM 27707 919 684-6255

WATSON, ROBERT ANDREW FP /GER 001
803 HERMITAGE ROAD AC
BURLINGTON 27215 919 227-3643

WATSON, SUSAN A. OPH 042
115 LONG CIRCLE A AC
ROANOKE RAPIDS 27870 919 539-8193

WATTS, CHARLES DEWITT GS /ABS 032
510 SIMMONS STREET AC
DURHAM 27701 919 688-3391

WATTS, HUGH BOYD ORS 080
130 MOCKSVILLE AVE. A P AC
SALISBURY 28144

WATTS, LESTER EARL CD /IM 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4581

WAUGH, WILLIAM HOWARD NEP /IM 074
ECU SCHOOL OF MEDICINE A AC
GREENVILLE 27834 919 551-2773

WAY, BRADY COLE GS 016
3 MEDICAL PARK A AC
MOREHEAD CITY 28557 919 726-1136

WAY, JOHN EDWARD GS 016
#3 MEDICAL PARK A L
MOREHEAD CITY 28557 919 726-1136

WEADON, PRESTON STENZ NS 045
475 KING WILLIAM ROAD A RT
HENDERSONVILLE 28739 704 697-6857

WEAR, JOHN EDMUND R 080
102 MOCKSVILLE AVE., #206 A P AC
SALISBURY 28144 704 633-1022

WEARN, FRANKLIN STAFFORD GS /EM 049
P. O. BOX 1746 A AS
STATESVILLE 28677 704 872-9494

WEAST, ROBERT RANDOLPH DR 011
STE. 301, 445 BILTMORE CENTER A AC
ASHEVILLE 28801 704 254-2371

WEATHERLY, WILLIAM JESSE GS 041
1014 PROFESSIONAL VILLAGE A AC
GREENSBORO 27401 919 373-1078

WEATHERS, BAILEY GRAHAM, JR. FP 036
222 S. MAIN STREET A AC
STANLEY 28164 704 263-8945

WEAVER, EDWARD HARRISON P 034
190 CHARLOIS BLVD. A AC
WINSTON-SALEM 27103 919 768-6930

WEAVER, JAMES PHILLIP GS /CDS 032
1830 HILLANDALE ROAD A AC
DURHAM 27705 919 383-5531

WEAVER, JOSEPH DUDLEY FP 008
111 N. MAPLE STREET L/RT
AHOSKIE 27910 919 332-2196

WEAVER, MICHAEL DAVID DR 074
1711 W. SIXTH STREET A * AC
GREENVILLE 27834 919 756-7923

WEAVER, R. GREY, JR. PD 034
771 REAFORD ROAD * AC
WINSTON-SALEM 27104 919 748-4091

WEAVER, ROY ALBERT PTH 026
CAPE FEAR HOSPITAL A AC
PO BOX 2000
FAYETTEVILLE 28302 919 323-6149

WEAVER, ZEBULON, III HEM /ON 011
80 VICTORIA ROAD * AC
ASHEVILLE 28801 704 258-0994

WEBB, ALEXANDER, JR. GS 092
2708 FAIRVIEW ROAD A L/RT
RALEIGH 27608 919 781-3469

WEBB, BAILEY PD 032
APT. 14, ALASTAIR COURT APTS. A L
300 SWIFT AVE.
DURHAM 27705 919 286-2202

WEBB, DUANE DAVID IM /GE 074
300 CLUB PINES DR. A AC
GREENVILLE 27834

WEBB, LAWRENCE XAVIER ORS 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-3606

WEBB, MICHAEL STEPHEN, JR. 032
229-A BRIDGEFIELD PLACE A S
DURHAM 27705 919 383-4960

WEBB, ROBERT KENT NEP /IM 026
PO BOX 42736 A AC
FAYETTEVILLE 28304 919 484-8114

WEBB, WILLIAM WHITAKER, JR. D 080
400-C MOCKSVILLE AVENUE A AC
SALISBURY 28144 704 636-0971

WEBER, ERIC D. NS 032
2 CARSON CIRCLE A R
DURHAM 27705 919 383-0465

WEBER, GLENDA H. PTH 034
P. O. BOX 809 A AC
CLEMMONS 27012 919 768-7680

WEBER, JOEL MICHAEL 034
1045-C BANK ST. A S
WINSTON-SALEM 27101 919 722-6775

WEBER, STEPHEN F. 034
2772 ASBURY LANE A R
WINSTON-SALEM 27103 919 760-2621

WEBSTER, GEORGE DAVID U 032
DUMC, DIV. OF UROLOGY A AC
DURHAM 27710 919 684-2516

WEBSTER, JOEL STOOPS CD /IM 060
2330 RANDOLPH AT LAUREL A AC
CHARLOTTE 28207 704 377-0575

WECHSLER, ANDREW STEPHEN CDS /GS 032
DUKE UNIV. MED. CTR. A AC
DURHAM 27710 919 684-5282

WEDDLE, RICHARD ANDREW GE /IM 023
808 SCHENCK ST. A AC
SHELBY 28150 704 482-1482

WEEKS, DUKE BYRON AN 034
2615 TALLWOOD COURT A AC
WINSTON-SALEM 27106 919 748-4791

WEEKS, JOHN WESLEY OBG 036
902 COX ROAD A AC
GASTONIA 28054 704 867-6386

WEEKS, KENNETH DURHAM IM /CD 064
1400 BROOKWOOD DR. A L
PO BOX 7828
ROCKY MOUNT 27804 919 977-6746

WEEKS, KENNETH DURHAM, JR. IM /CD 060
125 BALDWIN AVENUE A AC
CHARLOTTE 28204 704 338-6300

WEIDAW, HAROLD RICHARD AI /IM 063
P. O. BOX 1835 A AC
PINEHURST 28374 919 295-6661

WEILBAECHER, JAMES EDWARD, JR. ORS 011
129 MCDOWELL STREET A P AC
ASHEVILLE 28801 704 258-8800

WEIN, ROBERT MICHAEL OBG 041
408 PARKWAY A AC
GREENSBORO 27401 919 378-1110

WEINEL, WILLIAM HARVEY GYN 065
1809 GLEN MEADE ROAD A AC
WILMINGTON 28403 919 763-9833

WEINERTH, JOHN LOUIS U/GS 032
DUKE, DEPT. OF SURGERY A AC
DURHAM 27710 919 684-4157

WEINRICH, A. ELISE D 032
2609 N. DUKE ST. STE. 505 A P * AC
DURHAM 27704 919 477-2121

WEINSTEIN, ROBERT HARVEY P 065
2595 S. 17TH ST. A P AC
WILMINGTON 28401 919 799-2283

WEINTRAUB, RICHARD ALAN CD /IM 041
721 GREEN VALLEY RD. A P AC
GREENSBORO 27408 919 378-1244

WEIS, WALTER FRANCIS, JR. ORS 065
5305 WRIGHTSVILLE AVE. BLDG. C AC
WILMINGTON 28403 919 799-9417

WEISENBERGER, ANTHONY JOSEPH P 011
APPALACHIAN HALL A * AC
P. O. BOX 5534
ASHEVILLE 28813 704 253-3681

WEISLER, RICHARD HARRY P 092
3320 EXECUTIVE DR. STE. 216 A P AC
RALEIGH 27609 919 782-4672

WEISNER, LARRY FELIX 074
#12 COUNTRY MANOR APTS. A S
GREENVILLE 27834 919 758-9272

WEISS, JAMES RICHARD P 032
400 EASTOWN DR., STE. 102 * AC
CHAPEL HILL 27514 919 489-2671

WEISS, JOSEPH WALTON P 041
522 N. ELAM AVENUE, STE. 203 A AC
GREENSBORO 27403 919 854-2391

WEISS, MATTHEW JAY GER 032
910 CONSTITUTION #1003 A R
DURHAM 27705 919 383-9755

WEISS, RICHARD ELLIOTT NS 011
7 MCDOWELL STREET A AC
ASHEVILLE 28801 704 255-7776

WEISSLER, MARK C. OTO /HNS 032
610 BURNETT-WOMACK BLDG.229H * AC
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514 919 966-3341

WEISSMAN, JAMES MICHAEL GE /IM 041
1904 N. CHURCH STREET A * AC
GREENSBORO 27405 919 274-3241

WEITZNER, STANLEY WALLACE AN 032
417 LYONS ROAD A AC
CHAPEL HILL 27514 919 684-2425

†WEIZENBLATT, SPRINZA OPH 011
C/O TRUST DEPARTMENT A L
DECEASED - 4-5-87
ASHEVILLE 28802

WELANDER, CHARLES ERIC GYN /ON 034
300 S. HAWTHORNE RD. A AC
WINSTON-SALEM 27103 919 748-4022

WELBORN, JAMES TODD FP 029
17 E. SECOND AVENUE A AC
LEXINGTON 27292 704 246-5625

WELBORN, JULIUS WARREN, JR. IM /OM 041
200 E. NORTHWOOD ST., STE. 310 A AC
GREENSBORO 27401 919 273-0872

WELCH, CARL LESTER FP 018
221 13TH AVE. PL. NW A AC
HICKORY 28601 704 322-5800

WELCH, EARL PARKS, JR. GS /TS 034
2825 LYNDHURST AVE. STE. 105 A AC
WINSTON-SALEM 27103 919 760-3112

WELCH, JACK H. AN 074
PHYSICIANS QUADRANGLE A P AC
GREENVILLE 27834 919 752-2140

WELFARE, CHARLES RANDALL IM 034
1113 STANDISH COURT A L/RT
WINSTON-SALEM 27106 919 723-3856

WELLBORN, WILLIAM REVERE, JR. OBG 012
300 AVERY AVENUE L/RT
MORGANTON 28655 704 437-1924

WELLER, EDWARD BROOKS ORS 040
624-D 200 QUAKER LANE AC
HIGH POINT 27262 919 885-5095

WELLMAN, DAVID KENTON GS /EM 032
2413 MONT HAVEN DR. A AC
DURHAM 27712 919 383-5055

WELLS, ANDREW HENDERSON 034
1715 ELIZABETH AVE. A S
WINSTON-SALEM 27103 919 761-0895

/ELLS, CHARLES LEWIS PTH 026
CAPE FEAR VALLEY MED. CTR. A AC
PO BOX 2000
FAYETTEVILLE 28302 919 323-6149

/ELLS, DAVID MORELLE DR 077
802 CUMBERLAND CIRCLE A P AC
ROCKINGHAM 28379 919 997-6311

/ELLS, EDWIN JULIUS PS 065
2209 DELANEY AVENUE A AC
WILMINGTON 28403 919 763-7617

/ELLS, HELEN LEWIS GP 020
503 PEACHTREE STREET AC
MURPHY 28906 704 837-2515

/ELLS, JAMES SHELTON, JR. P/PYM 032
ROUTE #3, BOX 456 A P AC
HILLSBOROUGH 27278 919 967-6353

/ELLS, MARIUS HUGHEY GS 088
NEWLAND MED. BLDG. A AC
11 GALLIMORE RD.
BREVARD 28712 704 884-9030

/ELLS, RHEUDOLPH JAMES OTO /PS 041
602 PASTEUR DRIVE A AC
GREENSBORO 27403 919 292-5818

/ELLS, ROBERT STANLEY IM 011
445 BILTMORE CTR., STE. 407 A AC
ASHEVILLE 28801 704 258-0397

/ELLS, WARNER LEE GS 032
109 PARK PLACE #4 L/RT
CHAPEL HILL 27514 919 968-0069

/ELTON, DAVID GOE D 060
3535 RANDOLPH RD. STE. W101 A * L
CHARLOTTE 28211 704 364-6110

/EN, DENNIS Y. 074
DOCTORS PARK APTS. L-13 A S
GREENVILLE 27834 919 758-5954

/ENZEL, FREDERICK GEORGE GS 044
102 HOSPITAL DR., STE. 12 AC
CLYDE 28721 704 456-8624

/ERK, EMILE EUGENE, JR. IM /END 065
2131 S. SEVENTEENTH STREET A AC
WILMINGTON 28401 919 343-0161

/ERTMAN, DANIEL EDWARD, JR. R 032
DURHAM GEN. HOSP-RAD. A P AC
DURHAM 27704 919 471-3411

/ERTMAN, MARK GRAHAM ORS 025
PO DRAWER 1694 A AC
TRIANGLE PLAZA
NEW BERN 28560 919 637-4477

WEST, GEORGE HARPER IM /CD 054
109 AIRPORT ROAD A AC
KINSTON 28501 919 522-3661

WEST, ROBERT LEE PTH 074
ECU SCHOOL OF MEDICINE A P * AC
GREENVILLE 27834 919 551-4496

WESTER, MILLARD WINSTON, JR. FP 091
VANCE MED. ARTS BLDG. #A A AC
HENDERSON 27536 919 492-3152

WESTER, THADDEUS BRYAN PD /PH 078
1001 BRIGHTHURST DR., APT. 101 A AC
RALEIGH 27605 919 738-7231

WESTFALL, ARLIE HAROLD OBG 078
4300 FAYETTEVILLE ROAD A AC
DECEASED-5-23-87
LUMBERTON 28358 919 738-9601

WESTON, BRENT WILLIAM PD 032
301 OLD FOX TRAIL R
DURHAM 27713 919 489-1765

WESTON, JONATHAN D. OBG 034
495 N. CLEVELAND AVE. A AC
WINSTON-SALEM 27101 919 725-8874

WESTON, LYNDA RIGSBEE P 034
610 COLISEUM DR. AC
CHILD GUIDANCE CENTER
WINSTON-SALEM 27106 919 723-3571

WETTER, JAMES MICHAEL FP 026
1601-B OWEN DRIVE A AC
FAYETTEVILLE 28306 919 323-1152

WHALEN, ROBERT EMMET CD /IM 032
DUKE UNIV. MED. CTR. A AC
DURHAM 27710 919 684-6315

WHALEY, JAMES DAVANT U 018
138-A S. BATTERY A L/RT
CHARLESTON, SC 29401 803 722-9998

WHALEY, ROBERT ALLAN DR /N 032
748 SHADYLAWN ROAD AC
CHAPEL HILL 27514 919 966-4397

WHANGER, ALAN DUANE P 032
1712 WOODBURN ROAD AC
DURHAM 27705 919 684-2545

WHARTON, C. WATSON GP 051
201 W. MEADOWBROOK DRIVE A L/RT
SMITHFIELD 27577 919 934-8257

WHATLEY, JOSEPH WILLIAM, JR. PDA /A 032
2919 COLONY ROAD A AC
DURHAM 27705 919 489-9158

WHEATLEY, JAMES WALTER OPH 013
500 LAKE CONCORD RD., NE A AC
CONCORD 28025 704 782-1127

WHEATLEY, SAMUEL NALLY OBG 024
BALDWIN WOODS AC
WHITEVILLE 28472 919 642-3294

WHEELER, ANTHONY H. N 060
1900 BRUNSWICK AVE. AC
CHARLOTTE 28207 704 377-9323

WHEELER, CLAYTON EUGENE, JR. D/IM 032
NCMH, DEPT. OF DERMATOLOGY A AC
CHAPEL HILL 27514 919 966-4507

WHEELER, MICHAEL STEVENS PTH 081
15 SQUIRREL DEN DRIVE A P AC
RUTHERFORDTON 28139 704 287-7371

WHEELER, REBECCA RUSSELL IM /ID 041
1200 N. ELM ST. AC
GREENSBORO 27401 919 379-4062

WHELESS, THOMAS O. FP /GER 035
948 N. MAIN STREET A AC
LOUISBURG 27549 919 496-3375

WHELISS, JOHN ANGUS OPH 092
2800 BLUE RIDGE BLVD. STE. 407 A AC
RALEIGH 27607 919 781-7402

WHETSELL, DOUGLAS WAYNE IM /PUD 026
1756 METROMEDICAL DR. A AC
FAYETTEVILLE 28304 919 323-1322

WHICKER, CHARLES FINCH OBG 097
BRUSHY MOUNTAIN OB-GYN ASSOC.A AC
MEDICAL ARTS BLDG.
N. WILKESBORO 28659 919 667-1156

WHICKER, JAMES HUBERT OTO 092
3010 ANDERSON DRIVE A AC
P. O. BOX 18946
RALEIGH 27619 919 787-7171

WHICKER, WINFRY EVANS FP 080
P. O. BOX 595 A AC
CHINA GROVE 28023 704 857-1108

WHISNANT, JOHN KEENAN, JR. PD /ON 032
237 HUNTINGTON DR. AC
CHAPEL HILL 27514 919 248-4160

WHISNANT, JOSEPH DURWOOD, JR. U 064
3136 SUNSET AVE. A AC
ROCKY MOUNT 27801 919 443-3136

WHITAKER, DONALD NASH FP 092
2016 CAMERON STREET L/RT
RALEIGH 27605 919 832-0343

WHITAKER, DONALD NASH, JR. CD 013
140 LECLINE DRIVE, NE AC
CONCORD 28025 704 788-3367

WHITAKER, JAMES ALLEN U 064
624 FALLS ROAD A L
ROCKY MOUNT 27804 919 442-3516

WHITAKER, JAMES ALLEN, III CD /IM 098
1700 S. TARBORO ST. A AC
WILSON 27893 919 291-1300

WHITAKER, RICHARD HARPER GP 034
120 N. CHERRY ST. A L/RT
KERNERSVILLE 27284 919 993-3838

WHITE, DOUGLAS RECTOR HEM /ON 034
BOWMAN GRAY, DEPT. OF MED. A AC
WINSTON-SALEM 27103 919 748-4380

WHITE, EMMETT ROYCE TR /R 012
BOX 10 A AC
RUTHERFORD COLLEGE 28671 704 879-9541

WHITE, FRANKLIN DELANO FP 019
P. O. BOX 567 A AC
SILER CITY 27344 919 663-2761

WHITE, GROVER WATTS U 036
631 COX ROAD A AC
GASTONIA 28054 704 864-7764

WHITE, JAMES ALFRED, JR. PTH 034
2240 CLOVERDALE AVE.-#198 A AC
WINSTON-SALEM 27103 919 722-1154

WHITE, JAMES LEE AN 060
GEORGETOWN UNIV. HOSPITAL A R
DEPT. OF ANESTHESIA
WASHINGTON, DC 20007

WHITE, MACK WILLIS, III IM 060
7108 MATTHEWS-PINEVILLE RD. A AC
CHARLOTTE 28226 704 542-1952

WHITE, MICHAEL CRAIG D 000
8362 RIM LINE A R
SAN ANTONIO, TX 78251 512 670-7731

WHITE, PHILIP FLETCHER GP 077
P. O. BOX 1827 A L
ROCKINGHAM 28379 919 895-5253

WHITE, RANDAL EARL RHU 074
407 CEDARHURST RD. AC
GREENVILLE 27834 919 752-6101

WHITE, STEVEN MERLE OPH 074
301 BOWMAN GRAY DR. A P * AC
GREENVILLE 27834 919 758-5800

WHITE, TERRY EDWARD PM 011
PO BOX 15025 A AC
ASHEVILLE 28813 704 274-2400

WHITE, THOMAS HUGH OBG 060
1851 E. THIRD STREET AC
CHARLOTTE 28204 704 332-8103

WHITE, THOMAS RHYNE FP 060
10724 PARK ROAD A AC
CHARLOTTE 28210 704 542-9227

WHITE, WILLIAM ELLIOTT PD 060
2711 RANDOLPH RD., STE. 301 A AC
CHARLOTTE 28207 704 332-6332

WHITE, WILLIAM HENRY, JR. OBG 053
109-A S. VANCE STREET A AC
SANFORD 27330 919 775-2304

WHITEHURST, LEE ALBERT ORS 092
3515 GLENWOOD AVENUE A AC
P. O. BOX 10707
RALEIGH 27605 919 781-5600

WHITEHURST, WALTER CLAYTON,JR. R 067
201 DEBORAH DRIVE A AC
JACKSONVILLE 28540 919 577-2274

WHITENER, BETTY LOU FP 039
P. O. BOX 220 A AC
OAK RIDGE, LA 71264 318 647-3720

WHITENER, DONALD LEONARD OBG 034
2927 LYNDHURST AVENUE A AC
WINSTON-SALEM 27103 919 765-9350

WHITENER, ROBERT WILFONG P 041
1024 PROFESSIONAL VILLAGE AC
GREENSBORO 27401 919 274-1250

WHITESIDE, JOHN HARVEY OBG 060
150 PROVIDENCE ROAD A AC
CHARLOTTE 28207 704 377-0461

WHITESIDES, DANIEL BAXTER OBG /END 032
4404 CHESHIRE CT. A R
DURHAM 27705 919 383-8731

WHITESIDES, EDWARD STEELE ORS 036
902 COX ROAD, SUITE D A AC
GASTONIA 28054 704 864-6723

WHITFIELD, PETER WHITE ORS 041
201 E. WENDOVER AVE. A AC
GREENSBORO 27401 919 274-1957

WHITLEY, ROBERT RILEY FP 079
P. O. BOX 1689 AC
REIDSVILLE 27320 919 349-5040

WHITLOCK, GARY THOMAS, III 060
201 S. COLLEGE #1370 A AC
CHARLOTTE 28244 704 373-2121

WHITNEY, PAMELA JOYCE N 092
3320 EXECUTIVE DR., STE. 218 A AC
RALEIGH 27609 919 872-0940

WHITWORTH, CLAUDE PHILLIP IM 081
RT. 3, BOX 315 BB AC
FOREST CITY 28043 704 286-9036

WHYTE, THOMAS M. FP 074
2619 S. WRIGHT RD. R
GREENVILLE 27834 919 551-4611

WICKER, JOSEPH BEAMAN AN 074
PHYSICIANS QUAD.,BLDG. F A P AC
GREENVILLE 27834 919 752-2140

WIDENER, HERBERT LLOYD RHU /IM 060
1350 S. KINGS DRIVE AC
CHARLOTTE 28207 704 372-8750

WIDNER, LARRY ALLEN R 040
1310 KENSINGTON DR. A AC
HIGH POINT 27260 919 887-1926

WIEGAND, STEVEN FREDERICK EM /FP 092
10305 WHITESTONE ROAD A AC
RALEIGH 27609 919 848-9471

WIER, FRED EUGENE GS /CDS 062
506 WOOD ST. A AC
TROY 27371 919 572-3737

WIGGINS, JOHN CARROLL, JR. IM 034
1121 PARTRIDGE LANE A L/RT
WINSTON-SALEM 27106 919 765-5334

WIGGINS, THOMAS BARNES DR 034
2508 MOUNT SALEM ROAD A R
PFAFFTOWN 27040 919 922-1364

WIGGS, WILLIAM J., JR. 074
201 PINERIDGE DR. A S
GREENVILLE 27834

WILCOX, BENSON REID CDS 032
108 BURNETT-WOMACK A AC
UNC, 229-H
CHAPEL HILL 27514 919 966-3381

WILCOX, WILLIAM DAVID OPH 032
116 CRUTCHFIELD ST. A AC
DURHAM 27704 919 477-8050

WILEY, JERRY WILLIAM PD 092
4700 WESTMINISTER DR. * AC
RALEIGH 27604 919 733-2833

WILFERT, CATHERINE M. MINOCK PD /ID 032
BOX 2951, DUMC * AC
DURHAM 27710 919 684-6610

WILFONG, ROBERT FARRINGTON NS 025
2713 NEUSE BLVD. A P AC
NEW BERN 28560 919 633-6070

WILHELMSEN, BRUCE ORS 074
117 MEDICAL DRIVE A AC
GREENVILLE 27834 919 758-1777

WILKERSON, ANNIE LOUISE OBG /GYN 092
100 S. BOYLAN AVENUE A L
RALEIGH 27603 919 832-5529

WILKERSON, EARL RANDOLPH, JR. OPH 060
3535 RANDOLPH ROAD A AC
CHARLOTTE 28211 704 364-8576

WILKERSON, JACK WINFIELD FP 074
P. O. BOX 1966 A AC
GREENVILLE 27834 919 752-7133

WILKERSON, LOUIS REAMS OBG 092
100 S. BOYLAN AVENUE A AC
RALEIGH 27603 919 832-5529

WILKINS, EZRA BROOKS FP 092
6204 GAINSBOROUGH DR. AC
RALEIGH 27612 919 782-0146

WILKINS, KENNETH WORTH 096
P. O. BOX 1977 A AC
GOLDSBORO 27530 919 735-1253

WILKINS, KENNETH WORTH, JR. IM 025
702 NEWMAN ROAD AC
MCCARTHY SQUARE
NEW BERN 28560 919 633-5333

WILKINS, LUCIEN SANDERS GE 065
1202 MEDICAL CENTER DRIVE A * AC
WILMINGTON 28401 919 763-8251

WILKINS, ROBERT HENRY NS 004
DUMC, DIV. OF NEUROSURGERY A AC
DURHAM 27710 919 684-2549

WILKINSON, CHARLES ALBERT GS /TS 065
1501 MEDICAL CENTER DRIVE AC
WILMINGTON 28401 919 763-6289

WILKINSON, JAMES SPENCER,JR. 000
107 HARROW CIRCLE A R
GREENVILLE 27834 919 758-3812

WILKINSON, JAMES SPENCER,SR. D 092
215 BRYAN BLDG. A * L
RALEIGH 27605 919 832-6044

WILKINSON, ROBERT HOLDEN, JR. NM /R 032
BOX 3949, DUMC A AC
DURHAM 27710 919 681-2711

WILL, THOMAS AUGUSTINE GP 036
P. O. BOX 515 A AC
DALLAS 28034 704 922-3106

WILLCOCKSON, WILLIAM S. EM 001
503 SHARON ROAD A AC
CHAPEL HILL 27514 919 228-1371

WILLE, CARL RICHARD OPH 074
DOCTOR'S PK, BLDG. 1 A AC
GREENVILLE N C 27834 919 758-4166

WILLETT, EUGENE STANLEY ORS 011
111 VICTORIA AT OAKLAND ROAD A AC
ASHEVILLE 28801 704 252-7331

WILLETT, ROBERT W. IM /N 092
2800 BLUE RIDGE BLVD. STE 503 AC
RALEIGH 27607 919 782-7500

WILLHIDE, MARGARET JANE PD /A 049
P. O. BOX 1460 AC
STATESVILLE 28677 704 873-0281

WILLIAMS, CHARLES D. PUD /IM 060
734 LANSDOWNE RD. A AC
CHARLOTTE 28226 704 366-6687

WILLIAMS, CHARLES EMERY OTO /HNS 011
285 MCDOWELL STREET * AC
ASHEVILLE 28803 704 252-1853

WILLIAMS, DAVID LEON IM /HEM 063
540 N. W. BROAD STREET A AC
SOUTHERN PINES 28387 919 692-2061

WILLIAMS, DAVID R., JR. 032
H-7 CAROLINA APTS. A S
CARRBORO 27510

WILLIAMS, DAVID ROBERT PD 029
200 ARTHUR DRIVE * AC
THOMASVILLE 27360 919 475-2348

WILLIAMS, EDWARD SUTHERLIN IM /CD 032
306 S. GREGSON STREET A AC
DURHAM 27701 919 682-5561

WILLIAMS, ERNEST COUNCIL GS /TS 036
3618 CLUB COLONY DR., W. A RT
GASTONIA 28054 704 864-1417

WILLIAMS, JACK DEAN OTO 023
209-B LEE ST. A P * AC
PO BOX 1968
SHELBY 28150 704 487-9088

WILLIAMS, JOHN DUDLEY, JR. GYN 041
1715-A W. MARKET ST. L
GREENSBORO 27403 919 272-8833

WILLIAMS, JOHN HOWARD IM 000
145 JEFFERSON ST., APT. C-6 R
HARTFORD, CT 06106 203 549-5971

WILLIAMS, JOHN HOWARD R 045
PARDEE MEMORIAL HOSPITAL AC
HENDERSONVILLE 28739 704 693-0797

WILLIAMS, JOHN MARK CDS 074
ECU SCHOOL OF MED. A AC
DEPT. OF SURGERY
GREENVILLE 27858 919 551-4822

WILLIAMS, KENAN BANKS PD 034
3175 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27103 919 768-7030

WILLIAMS, LARRY THOMAS AN 018
354 SIXTH ST., NW A AC
HICKORY 28601 704 322-0870

WILLIAMS, LYNWOOD EARL IM 054
2114 HARDEE ROAD L/RT
KINSTON 28501 919 522-3753

WILLIAMS, MARTIN KEITH 074
F-6 DOCTORS PARK APTS. A S
GREENVILLE 27834 919 752-8619

WILLIAMS, MCCHORD GS 060
3954 CHURCHILL ROAD A L
CHARLOTTE 28211 704 364-5363

WILLIAMS, PAUL FORRESTER IM 001
711 HERMITAGE ROAD A AC
BURLINGTON 27215 919 226-9317

WILLIAMS, PAUL FRANKLIN OBG 067
200 MEMORIAL DRIVE A AC
JACKSONVILLE 28540 919 353-2115

WILLIAMS, R. BERTRAM, JR. GS /TS 065
1414 MEDICAL CENTER DRIVE A P * AC
WILMINGTON 28401 919 763-7363

WILLIAMS, RANDAL JAMES OPH 018
P. O. BOX 2588 A AC
HICKORY 28603 704 322-2050

WILLIAMS, RANDOLPH MEADE ORS 074
117 MEDICAL DRIVE A AC
GREENVILLE 27834 919 758-1777

WILLIAMS, RHODERICK THOMAS, JR DR 042
114 WOODLAND ROAD AC
ROANOKE RAPIDS 27870 919 535-2121

WILLIAMS, ROBERT DR 092
2305 HATHAWAY ROAD A L/RT
RALEIGH 27608 919 833-5645

WILLIAMS, ROBERT BARCLAY 034
21 FISHERS MILL DR. A S
COLUMBIA, SC 29206

WILLIAMS, ROBERT CYRUS, JR. OTO 018
FAIRGROVE CHURCH ROAD A P * AC
BOX 2484
HICKORY 28603 704 322-3725

WILLIAMS, ROBERT LEE PD 034
2004 CLAXTON DRIVE A AC
WINSTON-SALEM 27107 919 785-0037

WILLIAMS, RUSSELL WARREN FP 070
PO BOX 911 AC
KITTY HAWK 27949 919 261-3848

WILLIAMS, SAMUEL CLAY IM 034
2637 AUDUBON DR. A AC
WINSTON-SALEM 27106 919 722-3838

WILLIAMS, WARREN HERBERT P 036
431 S. YORK ST. A AC
GASTONIA 28052 704 788-8400

WILLIAMS, WILLIAM MARION, III PTH /CLP 065
2131 S 17TH STREET A AC
WILMINGTON 28402 919 343-7074

WILLIAMS, WILLIAM THOMAS, JR. IM /PD 060
MAIN ST., BOX 1570 AC
DAVIDSON 28036 704 892-7905

WILLIAMSON, JOSEPH EDWARD EM /FP 074
PITT MEMORIAL HOSPITAL A * AC
GREENVILLE 27834 919 753-2628

WILLIAMSON, JOYCE M. D 060
3535 RANDOLPH ROAD, 101-W A AC
CHARLOTTE 28211 704 364-6110

WILLIAMSON, ROSSIE MARSHALL GP 024
3004 WEDGEWOOD DR. A * L/RT
CEDAR CREEK VILLAGE
N. MYRTLE BEACH, SC 29582 803 249-2126

WILLIAMSON, WARREN LIGON GS 078
295 WEST 27TH STREET AC
LUMBERTON 28358 919 738-8556

WILLIFORD, JOHN KENNETH FP 043
P. O. BOX 579 A * AC
LILLINGTON 27546 919 893-3392

WILLIFORD, PHILLIP MABON IM 024
P. O. BOX 1249 A AC
WHITEVILLE 28472 919 642-8157

WILLIFORD, ROBERT EARL FP 076
208 FOUST STREET A AC
ASHEBORO 27203 919 625-4000

WILLIS, H.S.K., JR. FP /AM 036
125 W. CENTRAL AVE. A AC
MOUNT HOLLY 28120 704 827-5876

WILLIS, LARRY FRANKLIN OPH 012
335 E. PARKER ROAD AC
MORGANTON 28655 704 433-6220

WILLIS, ROBERT FREDERICK FP 026
204 S. MAIN STREET A P * AC
HOPE MILL 28348 919 424-6644

WILLIS, STEPHEN EDGAR FP 074
1748 BEAUMONT DR. A AC
GREENVILLE 27834 919 551-4611

WILLITTS, BRUCE KIRBY OBG 083
P. O. BOX 1808 A AC
LAURINBURG 28352 919 276-4432

WILLMOT, MICHEAL HENRY GS 029
PO BOX 993 A AC
THOMASVILLE 27360 919 472-4433

WILLSON, CHARLES FREDERICK PD 074
1800 W. FIFTH ST. A * AC
GREENVILLE 27834 919 752-7141

WILSHIRE, LARRY BRENT OPH 067
825 GUM BRANCH RD., STE. 133 A AC
JACKSONVILLE 28540 919 346-2444

WILSON, A. ROSS, JR. OTO 096
401 N. HERMAN ST. A AC
GOLDSBORO 27530 919 735-9146

WILSON, B. HADLEY CD 060
1960 RANDOLPH RD. A AC
CHARLOTTE 28207 704 373-1503

WILSON, CATHERINE MARIE OBG 011
143 ASHELAND AVENUE A P AC
ASHEVILLE 28801 704 258-9191

WILSON, CATHY JO AN 000
138 IVY DR. R
CHARLOTTESVILLE, VA 22901 804 296-8084

WILSON, CHARLES HARRISON CDS /TS 041
1317 N. ELM ST., STE. 1 A AC
GREENSBORO 27401 919 373-8245

WILSON, CLARENCE LAFAYETTE, II OBG 065
1809 GLEN MEADE ROAD A AC
WILMINGTON 28403 919 763-9833

WILSON, FRANK CRANE ORS 032
N. C. MEMORIAL HOSPITAL A AC
CHAPEL HILL 27514 919 966-3359

WILSON, FRANK ELMORE PH /GPM 000
ROUTE #3, LEONA ROAD RT
LENOIR CITY, TN 37771 615 986-6315

/ILSON, HENRY VANPETERS, III GS /TS 060
3535 RANDOLPH RD., 201-W A AC
CHARLOTTE 28211 704 364-8100

/ILSON, JACK KENNEDY, JR. IM 065
637 S. KERR AVENUE AC
WILMINGTON 28401 919 799-1810

/ILSON, JACK KENNEDY, SR. GP 065
1908 HAWTHORNE ROAD A RT
WILMINGTON 28403 919 763-5536

/ILSON, JAMES STEPHENSON GS 032
1830 HILLANDALE ROAD A L
DURHAM 27705 919 383-5531

/ILSON, LAWRENCE STEVEN U 012
VALDESE DOCTORS' CLINIC A P AC
P. O. BOX 700
VALDESE 28690 704 874-4890

/ILSON, MOSES ELLUED OBG 064
140 N. ENGLEWOOD DR. AC
ROCKY MOUNT 27801 919 937-6611

/ILSON, PATRIC ALOYSIUS 032
10A CEDAR VILLAGE A S
CHAPEL HILL 27514 919 967-8931

/ILSON, ROBERT LEWIS, JR. 034
2418 JEFFERSON AVE. A S
WINSTON-SALEM 27103 919 722-4588

/ILSON, ROEBY BRYANT GP 011
1330 W. SECOND AVENUE A L/RT
GASTONIA 28052 704 865-3940

/ILSON, SAMUEL ALLEN GP 055
710 E. PARK DR. A L/RT
LINCOLNTON 28092 704 735-8548

/ILSON, STEPHEN GLENN, SR. GP 043
P. O. BOX 158 A L/RT
ANGIER 27501 919 639-2574

/ILSON, THOMAS BARNETTE PTH 092
501 E. WHITAKER MILL RD. 405-A A L/RT
RALEIGH 27608 919 839-0250

/ILSON, VIRGIL ARCHIBALD AN 034
4193 DIMHOLT COURT A AC
WINSTON-SALEM 27104 919 765-8452

/ILSON, WILLIAM LENOIR PH 092
WEDGEWOOD APT. #23 A L/RT
740 E. SMALLWOOD DR.
RALEIGH 27605 919 828-2940

WILSON, WILLIAM PRESTON P 032
P. O. BOX 2347 A AC
BURLINGTON 27215 919 229-6049

WIMMER, JOHN EASTER, JR. NPM 074
ECU SCHOOL OF MEDICINE A AC
GREENVILLE 27834 919 551-4787

WINFIELD, HEBER GREY, III ORS 018
250 18TH ST. CIRCLE, SE AC
HICKORY 28602 704 322-5172

WINFIELD, JOHN BUCKNER RHU /IM 032
UNC DEPT. OF MEDICINE AC
CHAPEL HILL 27514 919 966-4191

WING, RICHARD LEE OBG 060
PO BOX 32861 A AC
CHARLOTTE MEM. HOSPITAL
CHARLOTTE 28232 704 338-3149

WINGERT, JOHN GEORGE OBG 060
1955 RANDOLPH ROAD A AC
CHARLOTTE 28207 704 376-3536

WINGFIELD, THOMAS WHETSELL AN 036
629 TORRENCE DRIVE AC
GASTONIA 28052 704 864-2499

WINKER, JOEL EDWARD OBG 081
P. O. BOX 1208 A AC
RUTHERFORDTON 28139 704 287-7383

WINN, BARBARA JANE PETERS IM 083
605 PEDEN STREET AC
LAURINBURG 28352 919 276-6637

WINSLOW, FRANCIS EDWARD, JR. PD 092
3001 ESSEX CIRCLE A AC
RALEIGH 27608 919 782-0021

WINSLOW, JAMES ELBERT FP 073
609 PROFESSIONAL DR. A P AC
ROXBORO 27573 919 599-9258

WINSLOW, JAMES WEEKS FP 033
101 CLINIC DRIVE A AC
TARBORO 27886 919 823-2105

WINSLOW, ROBERT BROWN PS /GS 092
2501 NORTH ST., STE. 500 AC
RALEIGH 27607 919 782-7762

WINSTEAD, JOHN LINDSAY, JR. GS 074
SUITE #1, MEDICAL PAVILION A AC
1800 W. FIFTH ST.
GREENVILLE 27834 919 752-2159

WINTER, KENNETH HOWE R 041
3307 WALDRON DRIVE A AC
GREENSBORO 27408 919 855-8972

WINTERS, RICHARD RIZER WALKER PS 025
1425 GLENBURNIE RD. A P AC
NEW BERN 28560 919 637-6800

WISE, DANIEL EDWIN CD 060
1350 S. KINGS DRIVE AC
CHARLOTTE 28207 704 372-8750

WISE, FRED EUGENE, JR. DR 060
1350 S. KINGS DRIVE A AC
CHARLOTTE 28207 704 372-8750

WISE, JOHN EDNEY IM 018
1624 N. CENTER STREET A AC
HICKORY 28601 704 328-2094

WISSING, JOEL ALLEN R 060
1611 E. THIRD ST. A AC
CHARLOTTE 28204 704 333-0224

WITHERINGTON, DEXTER THOMPSON GS 054
P. O. BOX 1316 A RT
KINSTON 28501 919 522-1626

WITHERS, ABNER CARR FP 012
BOX 38 AC
DREXEL 28619 704 437-3694

WITHERS, LARRY DALE AN 026
150 ELLERSLIE DR. A P * AC
FAYETTEVILLE 28303 919 864-5117

WITHERS, SYDNOR TERRY, JR. IM /FP 065
5305 WRIGHTSVILLE AVE.BLDG.E AC
WILMINGTON 28403 919 791-5426

WITHERS, SYDNOR TERRY, SR. D 054
905 N. QUEEN STREET A P * AC
KINSTON 28501 919 523-3289

WITTEN, ERNEST ROBERT SIDNEY IM 011
80 WEMBLEY RD. A AC
ASHEVILLE 28804 704 253-5707

WITTENBERG, PETER HERBERT PTH 036
GASTON MEM. HOSP. AC
PO BOX 1747
GASTONIA 28053 704 866-2851

WITTSTEIN, PETER BRIAN OPH 065
1904 TRADD COURT AC
WILMINGTON 28401 919 762-0057

WITWER, TIMOTHY SLAYTON IM /FP 070
1207 N. ROAD ST. A AC
ELIZABETH CITY 27909 919 335-4351

WOFFORD, BENJAMIN GP 018
105 N. MAIN AVENUE A AC
NEWTON 28658 704 464-3321

WOLANSKI, TERRENCE PHILIP PUD /IM 067
118 MEMORIAL DRIVE AC
JACKSONVILLE 28540 919 353-1811

WOLFBERG, BERNARD P 029
17 CUB DR. AC
THOMASVILLE 27360 919 475-8184

WOLFE, ANN FIERRO PD 092
6912 HUNTERS WAY * AC
RALEIGH 27615 919 733-3816

WOLFE, JOHN RICHARD IM /RHU 034
2933 MAPLEWOOD AVENUE A P AC
WINSTON-SALEM 27103 919 765-1640

WOLFE, WALTER GEORGE CDS /TS 032
BOX 3507, DUMC A AC
DURHAM 27710 919 684-4117

WOLFF, GEORGE THOMAS FP 041
1016-A PROFESSIONAL VILLAGE A AC
GREENSBORO 27401 919 379-1156

WOLFMAN, NEIL TURNER R 034
BOWMAN GRAY, DEPT. OF RAD. AC
WINSTON-SALEM 27103 919 748-2471

WOLICKI, KAROL T. OTO 041
321 W. WENDOVER AVE. A AC
GREENSBORO 27408 919 379-9445

WOLTZ, JOHN HENRY EARLY GYN 060
150 PROVIDENCE ROAD A L
CHARLOTTE 28207 704 377-0461

WOMBLE, JAMES CORNELIUS 032
170 PENMOKEN PARK A R
LEXINGTON, KY 40503 606 278-3081

WOMBWELL, JOSEPH ORS /HS 032
2417 BRUTON A R
DURHAM 27706 919 489-9312

WOOD, KENNETH ERVIN ORS 060
1350 S. KINGS DRIVE AC
CHARLOTTE 28207 704 372-8750

WOOD, SHERROD NEWBERRY GP 042
111 RAILROAD STREET A AC
ENFIELD 27823 919 445-5233

WOOD, WILLIAM BAINSTER IM /PUD 032
UNC, 231 MACNIDER BLDG. A * AC
CHAPEL HILL 27514 919 962-2118

WOOD, WILLIAM LUPTON, SR. GP 086
P. O. BOX 367 A L/RT
YADKINVILLE 27055 919 679-8689

WOODALL, HAL BREEN IM 098
BOX 878 A AC
KENLY 27542 919 284-5151

WOODALL, LEONARD SCHMICH OBG 051
711 NORTH STREET A AC
SMITHFIELD 27577 919 934-7696

WOODARD, BARNEY LELON GP 051
P. O. BOX 129 A L
KENLY 27542 919 284-3080

WOODARD, JERRY CLEON GE /IM 098
1700 S. TARBORO ST. A P * AC
WILSON 27893 919 291-1300

WOODARD, MARSHALL WAYNE OPH 011
607 FLATIRON BUILDING A AC
ASHEVILLE 28801 704 252-5668

WOODARD, PAMELA K. 032
201 ALEXANDER ST. APT. AA A S
DURHAM 27705 919 684-7402

WOODARD, PAUL RICHARD AN 092
1825 ST. MARY'S ST. A AC
RALEIGH 27608 919 755-8000

WOODARD, SABRA ALDERMAN R/NM 092
1825 ST. MARY'S STREET A AC
RALEIGH 27608 919 755-3023

WOODARD, WARDEN LEWIS, III IM /HEM 060
420 RALEIGH AVE. A R
BIRMINGHAM, AL 35209 205 934-2080

WOODLEY, DAVID TIMOTHY D/IM 032
NCMH, DEPT. OF DERM., ROOM 137 A AC
CHAPEL HILL 27514 919 966-4506

WOODRUFF, LEON FESTUS, JR. OBG 092
2800 BLUE RIDGE,BLVD.,STE. 502 A * AC
RALEIGH 27607 919 781-5510

WOODRUFF, RALPH DUTTON PTH 034
BOWMAN GRAY, DEPT. OF PATH. AC
WINSTON-SALEM 27103 919 748-4311

WOODRUFF, WILLIAM WALTER, III DR 032
PO BOX 5007 A R
HIGH POINT 27262

WOODS, JON POINTON 032
113 PUREFOY ROAD, APT. D A S
CHAPEL HILL 27514 919 942-0654

WOODS, THOMAS J. CROFFORD OPH /EM 082
WOODSIDE PROF. BLDG. A AC
CLINTON 28328 919 592-7860

WOODWARD, ROBERT WARREN OBG 079
517 WOODROW ST. AC
PO BOX 448
REIDSVILLE 27320 919 342-6161

WOODWORTH, ALFRED HERMAN FP /EM 065
3930 SWEETBRIAR RD. AC
WILMINGTON 28403 919 392-3216

WOODWORTH, THOMAS BELL FP 026
1657 OWEN DRIVE A AC
FAYETTEVILLE 28304 919 484-6540

WOODY, JOE HARRIS OPH 060
4335 COLWICK RD. A P * AC
CHARLOTTE 28211 704 364-7400

WOODY, JOHN W. AUSTIN FP 075
900 LYNN ROAD A L/RT
TRYON 28782 704 859-9483

WOOTEN, CECIL WILLIAM, JR. GP 054
P. O. BOX 1577 L/RT
KINSTON 28501 919 523-3496

WOOTEN, ELEANOR JANE H. PD /PH 092
904 WILLIAMSON DRIVE AC
RALEIGH 27608 919 832-4097

WOOTEN, JOHN LEMUEL ORS 074
6 MEDICAL PAVILION A AC
GREENVILLE 27834 919 752-4613

WOOTEN, STEPHEN LAMONT 074
#6 MEDICAL PAVILION A AC
GREENVILLE 27834 919 752-4613

WOOTEN, WAYNE BROWN DR 080
102 MOCKSVILLE AVE. #206 AC
SALISBURY 28144 704 633-1023

†**WORDE, BOYD THOMAS** TR 032
BOX 3085, DUKE HOSPITAL A AC
DECEASED - 3-19-87
DURHAM 27710 919 684-3742

WORDEN, NEIL ASHTON FP 026
116 ROWAN STREET A P AC
FAYETTEVILLE 28301 919 483-0463

WORF, RICHARD CHARLES FP 062
508 WOOD STREET AC
TROY 27371 919 572-3656

WORKMAN, JOSEPH BERKELEY NM /IM 032
219 COUNTRY CLUB DRIVE A AC
DURHAM 27712 919 681-2711

WORLAND, DAVID ERIC AN 041
1816 PEMBROKE RD., STE. #2 AC
GREENSBORO 27408 919 272-3720

WORLEY, GORDON, III PD 032
307 BIRCH CIRCLE AC
CHAPEL HILL 27514 919 683-6890

WORLEY, JAMES HARR GS 011
675 BILTMORE AVENUE A L
ASHEVILLE 28803 704 254-2361

WORTH, THOMAS CLARKSON R 092
500 LAKE BOONE TRAIL A * L/RT
RALEIGH 27608 919 787-6449

WORTMAN, JAMES EDWARD ON /HEM 065
715 FOREST HILLS DRIVE A AC
WILMINGTON 28403 919 763-5182

WORTMAN, WILLIAM J., JR. GYN /OBS 060
2711 RANDOLPH RD. #309 AC
CHARLOTTE 28207 704 376-1580

WOTRING, JAMES WILLIAM, JR. OBG 018
P. O. BOX 38 A AC
HICKORY 28601 704 322-4140

WRAY, RICHARD HENRY, III TS /GS 016
15 MEDICAL PARK AC
MOREHEAD CITY 28557 919 247-2101

WRENN, RICHARD NICKLES ORS 060
1822 BRUNSWICK AVENUE A * AC
CHARLOTTE 28207 704 373-0544

WRIGHT, CHARLES NEWBOLD FP 070
PO BOX 328 P AC
JARVISBURG 27947 919 491-2446

WRIGHT, DAVID ORLO FP 021
CHOWAN MEDICAL CENTER A AC
EDENTON 27932 919 482-2116

WRIGHT, DEBRA J. OBG 074
ECU SCHOOL OF MEDICINE AC
DEPT. OF OB-GYN
GREENVILLE 27834 919 757-4191

WRIGHT, ELIZABETH ANN N 018
420 N. CENTER ST. A AC
HICKORY 28601 704 327-4419

WRIGHT, EUGENE EDWARD, JR. IM 026
1738 METROMEDICAL DR. A AC
FAYETTEVILLE 28304 919 323-2503

WRIGHT, JAMES RHODES OTO /OPH 092
528 WADE AVENUE A * L
RALEIGH 27605 919 834-8251

WRIGHT, JAMES THURMAN GP 007
108 FRONT STREET A L
BELHAVEN 27810 919 943-2375

WRIGHT, JOHN EVERETT GP 092
P. O. BOX 348 A * L/RT
FUQUAY-VARINA 27526 919 552-2728

WRIGHT, JOHN HERMAN, JR. PS /GS 034
2901 MAPLEWOOD AVENUE A AC
WINSTON-SALEM 27103 919 765-8620

WRIGHT, JOHN JOSEPH PH 032
105 LAUREL HILL CIRCLE A L/RT
CHAPEL HILL 27514 919 942-4557

WRIGHT, PAUL HARLAN ORS 032
1901 HILLANDALE ROAD A P * AC
DURHAM 27705 919 383-1511

WRIGHT, RICHARD BRANDON, JR. FP 080
102 MOCKSVILLE AVENUE L
SALISBURY 28144 704 633-6010

WRIGHT, ROBERT L. OPH 053
409 CARTHAGE ST. A AC
SANFORD 27330 919 776-7549

WRIGHT, WALTER LEE OPH 054
1908 ELEANOR ST. A AC
KINSTON 28501 919 522-1611

WRIGLEY, RUTH LEYMEISTER FP /P 060
4516 RANDOLPH RD., #131 A AS
CHARLOTTE 28211 704 366-5479

WU, JUSTIN JA-LI 032
BOX 2826, DUMC A S
DURHAM 27710 919 781-7251

WU, WALLACE CHI LI GE /IM 034
300 S. HAWTHORNE RD. AC
WINSTON-SALEM 27103 919 748-4603

WYCHE, JOSEPH THOMAS FP 024
RT. #7, BOX 30 A L/RT
WHITEVILLE 28472 919 642-2706

WYMAN, JOHN SHELDON EM/IM 045
715 FLEMING ST. AC
HENDERSONVILLE 28739 704 693-6522

WYMAN, ROBERT WEST FP 051
110 WADDELL STREET A AC
SELMA 27576 919 965-3055

WYNIA, VIRGIL HOWARD CD /IM 092
3020 NEW BERN AVE. #420 A AC
RALEIGH 27610 919 781-7557

WYNN, ROY SPURGEON OPH 060
1721 OAKLAWN AVENUE A RT
CHARLOTTE 28216 704 332-2035

WYNN, TONJA MICHELLE 032
136-B PUREFOY RD. A S
CHAPEL HILL 27514 919 929-4216

WYSOR, WILLIAM GEOFFREY, JR. IM /GE 032
306 S. GREGSON STREET A AC
DURHAM 27701 919 682-5561

YADAV, SANJAY SINGH N/IM 032
BOX 3053, DUMC A R
DURHAM 27710 919 286-2352

YANCY, WILLIAM SAMUEL PD /ADL 032
306 S. GREGSON STREET A AC
DURHAM 27701 919 688-6349

YANG, FRANK YUN-PU GS 032
NC MEMORIAL HOSPITAL A R
HOUSESTAFF MAIL ROOM, SURGERY
CHAPEL HILL 27514 919 966-4131

YAP, ELSA DUMAUG PTH 013
CABARRUS MEMORIAL HOSPITAL A AC
CONCORD 28025 704 788-5987

YARBOROUGH, JESSE GRAHAM, JR. AN 036
RT. 1, BOX 125 AC
CATAWBA COVE RD.
BELMONT 28012

YARBOROUGH, MICHAEL FRANCIS GS /TS 092
3400 EXECUTIVE DR. STE. 104 A AC
PO BOX 17200
RALEIGH 27619 919 876-2732

YARBROUGH, JOHN WARD TS 041
2750 LAUREL STREET, STE. 305 AC
COLUMBIA, SC 29204 803 254-5140

YARBROUGH, WENDELL GRAY 032
320 ASHLEY FOREST RD. A S
CHAPEL HILL 27514 919 924-2447

YARLEY, DEWEY HOBSON IM 032
2609 N. DUKE STREET A AC
DURHAM 27704 919 471-8481

YEAGER, CHARLES FRANK TR /PTH 032
4205 LIVINGSTONE PLACE A R
DURHAM 27707

YEH, FLORA MEI-CHING 032
4408-B AMERICAN DR. A S
DURHAM 27705 919 286-9229

YELLIG, EDWARD BOOTH IM 092
2800 BLUE RIDGE BLVD. STE. 503 AC
RALEIGH 27607 919 782-7500

YENNEY, MATTHEW F.J., JR. R/NM 064
1031 NOELL LANE AC
PO BOX 111
ROCKY MOUNT 27802 919 443-9101

YODER, CHARLES DEWAYNE PD /NPM 011
50 DOCTOR'S DR., STE. 304M AC
ASHEVILLE 28801 704 253-1998

YOFFE, ELIZABETH HARRER ON /HEM 092
PO BOX 30098 AC
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419 BOROS RD. A
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KU, ANDREW DR 032
311 S. LASALLE ST. APT. 36-F A *
DURHAM 27705 919 681-2711

LASSITER, TALLY EDWARD, JR. ORS /EM 032
210 DACIAN AVE. A
DURHAM 27701 919 688-4609

LEE, K. STUART NS 034
325 JANET ST.
WINSTON-SALEM 27104 919 748-2011

LEIDY, LUANN P/CHP 032
4322 BEECHNUT LANE A
DURHAM 27707 919 489-1491

LEMLY-MUNDY, REGINA GAIL IM 034
752 PINE LAKE DR. A
VIRGINIA BEACH, VA 23462 804 474-9113

LEONARD, BAXTER COLUMBUS J. FP 026
2330 ROLLINGHILL RD.
FAYETTEVILLE 28304 919 396-6481

LESSEY, BRUCE ARTHUR OBG 032
1303 LAKEWOOD AVE. A
DURHAM 27707 919 489-8831

LI, GEORGE IM 032
3515 GREENBRIER BLVD, APT. 14-B A
ANN ARBOR, MI 48105

LIMPERT, GEORGE HENRY FP 034
1124 FENIMORE ST. A
WINSTON-SALEM 27103 919 723-4806

LINK, KERRY MICHAEL 034
300 S. HAWTHORNE RD.,BOX 265 A
WINSTON-SALEM 27103 919 724-4498

LYNCH, SUE ANN N 032
129 WINDSOR CIR. A
CHAPEL HILL 27514 919 942-8097

MAGOLAN, JEROME JOSEPH, JR. OPH 092
3320 EXECUTIVE DR., STE. 210 A
RALEIGH 27609 919 872-0572

MALLIS, GARY CRAIG 074
2806 CROCKETT DR.
GREENVILLE 27834 919 758-8125

MARQUEZ, FRANCISCO JAVIER 032
105 WESKER CIRCLE A
DURHAM 27703 919 596-0956

MARTIN, JAMES CICERO, JR. 032
VETERANS DR. APT. 7-A A
ASHEVILLE 28805

MARX, MARILYN GS 032
UTMB STATION 1, BOX 45 A
GALVESTON, TX 77550 409 761-1875

MATTHEWS, KAREN ROMAINE GP 040
2721 CARDIFF CT.
WINSTON-SALEM 27103 919 434-4007

MATTOX, HUITT EVERETT, III IM 034
1764 ROBINHOOD RD.
WINSTON-SALEM 27104 919 725-3227

MCADAMS, HOLMAN PAGE 032
10321 CRESTMOOR DR.
SILVER SPRING, MD 20901 301 681-8511

MCCOY, MARSHALL CLARKE EM 074
T-2 DOCTOR'S PARK APTS. A
GREENVILLE 27834 919 758-8045

MCMURRY, WARREN W. GS /VS 023
411 NW 26TH ST. A
GAINESVILLE, FL 32607 904 376-1611

MEARS, GREGORY DON EM 034
953 KEARNS AVE.
WINSTON-SALEM 27106 919 723-7160

MEDDERS, RUSSELL GLEN 032
221 BRANDON ROAD
BALTIMORE, MD 21212 919 967-8927

MELVIN, WINSLOW BRITT AN 074
1109 BUCKLEY RD. APT. #3 A
LIVERPOOL, NY 13088 315 451-2637

MILLER, HORACE WILLIAM, IV PS 060
586 WALNUT ST. A
CARRIAGE HOUSE
NEW ORLEANS, LA 70118

MIRAGLIA, COLLEEN P. FP 034
1057 S. HAWTHORNE RD. A
WINSTON-SALEM 27103 919 723-2299

MONTY, LOUIS HAROLD P 032
610 DOUGLAS ST., #A-104 A
DURHAM 27705 919 286-2188

MOORE, DAVID HARRY GYN /ON 032
UNC, DIV. OF GYN-ONC A
N.C. MEMORIAL HOSP.
CHAPEL HILL 27514 919 966-1196

MORRIS, JONATHAN EDWARD P 032
103 ROCK SPRING COURT A
CARRBORO 27510 919 967-6779

MOSTELLAR, HENRY CURTIS, III GS 034
2229 PARKWAY DR. A
WINSTON-SALEM 27103 919 723-7177

MURRAY, JANE H. FP 032
907 DEMERIUS ST.
DURHAM 27701 919 471-2571

MURRAY, MICHAEL J. TR 032
910 CONSTITUTION DR. APT. 720
DURHAM 27705 919 684-3742

NAYLOR, LEE ANN ALLEN DR 034
3681 SQUIREWOOD DR.
CLEMMONS 27012 919 922-3244

NORINS, MICHAEL ELLIOTT 032
122 WINDSOR PLACE A
CHAPEL HILL 27514 919 933-0367

OAKLEY, STANLEY PRESTON, JR. P 074
3025 VENTOSA DR. A
CHARLOTTE 28205 704 537-3643

OLIVER, WILLIAM RUSSELL PTH 032
114-B FIDELITY STREET A
CARRBORO 27510 919 929-7120

OLKOWSKI, STEVEN THOMAS OPH 034
1160 EDENWOOD DRIVE A
WINSTON-SALEM 27103 919 760-2157

OLYMPIO, GEORGIA K. PTH 034
526 OSBORNE RD. A
WINSTON-SALEM 27103 919 768-5217

OMAN, TIMOTHY ROY FP 067
BOX 2914 DUMC
DURHAM 27710 919 286-9896

PARKER, PAUL EDWIN AN 032
N. C. MEMORIAL HOSPITAL A
CHAPEL HILL 27514 919 477-2475

PENCE, CARLA RAFFETY IM 034
1900 QUEEN ST. A-4 A P
WINSTON-SALEM 27103 919 725-7499

POTTS, FREDERICK LATHAM, III EM 074
T-1 DOCTORS PK, BEASLEY DR. A
GREENVILLE 27834 919 758-1102

PRICE, JERRY THEODORE 000
322 KEYWOOD DR. A
LYNCHBURG, VA 24501 804 239-4961

PULLIAM, THOMAS JACKSON IM 034
2811 FOXWOOD LANE A
WINSTON-SALEM 27103 919 760-4557

QUEEN, JEFFREY SCOTT PD 060
115 TURTLE CREEK RD. #2 A
CHARLOTTESVILLE, VA 22901

REEVES, WOODROW WILSON, JR. U 000
123 1/2 BANBERRY LANE A
LEXINGTON, KY 40503 606 277-5344

REID, STEVEN HUNTER DR 000
803 DELANEY ST. A
RICHMOND, VA 23229 804 741-5748

REISER, HARVEY J. OPH 032
9TH AND WALNUT STREETS A
PHILADELPHIA, PA 19107

RIESER, GEOFFREY DAVIS 034
2833 BIRCHWOOD DR. A
WINSTON-SALEM 27103 919 760-3090

RIZZUTI, RICHARD PHILIP 074
504 LANCELOT DR. A
GREENVILLE 27834 919 756-0060

ROSENSTEIN, BYRON DAVID ORS 032
205 NORTHWOOD DR. A
CHAPEL HILL 27514 919 942-4209

ROZAKIS, GEORGE WILLIAM 032
2 ABINGDON WAY A
DURHAM 27707 919 544-7906

RUFFIN, MACK THOMAS, IV FP 034
3112 GEORGIA AVE. S. A
ST. LOUIS PARK, MN 55426

RUTHERFORD, EDMUND GS 000
2131 S. 17TH ST. A
WILMINGTON 28401 919 343-7000

SALLEE, D. SKIP 032
BOX 3808, DUMC *
DURHAM 27710 919 383-6548

SAPPENFIELD, DAVID LUTHER OPH 000
5207 S. W. 86TH TERRACE A P
GAINESVILLE, FL 32608 904 392-3111

SATO, TAKAO LEWIS IM 034
6730 AMBERLEY LN. A
CLEMMONS 27012 919 766-9505

SCHWINN, DEBRA ANNE AN 032
BOX 3094, DUMC A
DURHAM 27710 919 493-3168

SEIGNIOUS, DAVID WAYNE IM 065
1117 WOODHAVEN DR. A
CHARLESTON, SC 29407

SHAFFNER, SUSAN CASPER PD 060
127 HILLSIDE AVE. A P
CHARLOTTE 28209 704 332-7539

SHUGART, MARGARET ANN P 032
1713 AVONDALE DR. A
DURHAM 27701 919 688-9003

SIEFKER, JOSEPH DANIEL OTO 032
1605 EDGEVALE RD. A
DURHAM 27705 919 688-1816

SIMONS, WILLIAM JOHN 011
9 W. AVON PARKWAY
ASHEVILLE 28804 704 258-9635

SMALL, KENT WILSON OPH 032
3775 GUESS ROAD #23 A
DURHAM 27705 919 684-6611

SMITH, HELEN ELIZABETH 032
3312-L CIRCLE BROOK DR. SW A
ROANOKE, VA 24014 703 772-3071

SMITH, MICHAEL ALSON FP 000
1325 EDENFIELD DR. A
FT. WALTON BEACH, FL 32548 919 383-4326

SMITH, MICHAEL LEE PD /D 000
1412 S. CHAMBERS CIRCLE A
AURORA, CO 80012

SNEDEKER, JEFFREY DAVID PD /ID 032
BOX 31085, DUMC
DURHAM 27710 919 684-6610

SOFLEY, CARL WILSON, JR. 032
319 KILBOURNE RD. A
COLUMBIA, SC 29205 803 254-5847

SPANGLER, THOMAS CLAYTON ORS 032
1603 ARTHUR DR. A
GRAHAM 27253 919 226-6586

SPANGLER, WILLIAM WOEHLING EM 000
SOUTH LOUISIANA MED. CTR. A
1978 INDUSTRIAL BLVD.
HOUMA, LA 70363 504 868-8140

SPIRO, PHILIP MARGET GP 007
2001 DARTMOUTH DR.
DURHAM 27705 919 796-0689

SPRUILL, THOMAS RAYFORD P 032
RT. #5, BOX 200 A
HILLSBOROUGH 27278 919 732-7500

STEM, THEODORE B., JR. IM /NEP 000
1506 WOODVIEW DR.
GREENSBURG, PA 15601 412 885-5448

STRAIN, BRIAN MCCULLOUGH GS 023
ROANOKE MEMORIAL HOSPITAL A
ROANOKE, VA 24014 703 951-7000

STRATAS, BYRON ARISTOTLE 000
25 25TH STREET A
ISLE OF PALMS, SC 29451 803 886-8740

SUGARMAN, JEREMY IM 032
28 JUSTIN CT. A
DURHAM 27705 919 477-9435

SWEENEY, CHARLOTTE A. OBG 032
RT. #2, BOX 195
CONOVER 28613

TANNER, DAUNE D. EM 034
1575 WATERFORD PLACE A
FT. MILL, SC 29715

TENNYSON, GARY S. PTH 032
720 SHADY LAWN RD. A
CHAPEL HILL 27514 919 929-8599

THOMAS, BARBARA ANNE LOWRY P 034
2720 WINDY CROSSING A
WINSTON-SALEM 27107 919 785-2073

THOMASON, ROBERT BRADLEY,III GS 034
N.C. BAPTIST HOSPITAL A
300 S. HAWTHORNE RD.
WINSTON-SALEM 27103 919 748-2011

TOOTHMAN, DONALD E. 000
487 47TH AVE.
SAN FRANCISCO, CA 94121 415 387-5140

TRAVIS, JO MARLENE AN 032
45 HARDING AVENUE A
BRANFORD, CT 06405 203 481-7026

TURPIN, JAMES WESLEY OM 032
231 FOREST HILL ROAD A
CHAPEL HILL 27514 919 942-4743

VAN TASSEL, ERIC D. IM /CD 032
410 EDGELAND PLACE A
BIRMINGHAM, AL 35209 919 942-4810

VIDAILLET, HUMBERTO JESUS, JR. 032
2403 ALPINE RD.
DURHAM 27707 919 489-8639

VISER, PAUL EDWARD IM 000
6704 ROCKWOOD RD. A
LITTLE ROCK, AR 72207 501 663-9386

WALKER, DANA SHERRICK FP 034
2100 BRICKHAVEN DR. A
GREENSBORO 27407

WALLER, BRENDA SUE 034
408-B SPAUGH ST.
WINSTON-SALEM 27101

WALSH, ZANE THOMAS, JR. PM 074
4801 LEONARD PARKWAY A
RICHMOND, VA 23226

WALTERS-SCHERRER, BARBARA A. 032
417 COLONY WOODS DR. A
CHAPEL HILL 27514 919 968-4652

WARD, WILLIAM GOODE ORS 032
21 GORHAM PLACE A
DURHAM 27705 919 383-9667

WARDEN, CLARK GERARD GS 032
212 CEDARWOOD LANE A
CARRBORO 27510 919 967-9414

WARREN, JEFFERY STEVEN EM /GS 032
C/O W. JEFF WARREN A
227 W. MARSH ST.
SALISBURY 28144

WARREN, MELINDA BAREFOOT OBG 074
528 SUWANEE CIRCLE A
DAVIS ISLAND
TAMPA, FL 33606

WATKINS, GLEN LEE GP 000
BOX 804 NSGA A
FPO MIAMI, FL 34053 809 795-7380

WATSON, RICHARD BALDWIN AN 032
816 ARCHDALE DR. A
DURHAM 27707 919 684-6255

WEBER, ERIC D. NS 032
2 CARSON CIRCLE A
DURHAM 27705 919 383-0465

WEBER, STEPHEN F. 034
2772 ASBURY LANE A
WINSTON-SALEM 27103 919 760-2621

WEISS, MATTHEW JAY GER 032
910 CONSTITUTION #1003 A
DURHAM 27705 919 383-9755

WESTON, BRENT WILLIAM PD 032
301 OLD FOX TRAIL
DURHAM 27713 919 489-1765

WHITE, JAMES LEE AN 060
GEORGETOWN UNIV. HOSPITAL A
DEPT. OF ANESTHESIA
WASHINGTON, DC 20007

WHITE, MICHAEL CRAIG D 000
8362 RIM LINE A
SAN ANTONIO, TX 78251 512 670-7731

WHITESIDES, DANIEL BAXTER OBG /END 032
4404 CHESHIRE CT. A
DURHAM 27705 919 383-8731

WHYTE, THOMAS M. FP 074
2619 S. WRIGHT RD.
GREENVILLE 27834 919 551-4611

WIGGINS, THOMAS BARNES DR 034
2508 MOUNT SALEM ROAD A
PFAFFTOWN 27040 919 922-13[illegible]

WILKINSON, JAMES SPENCER,JR. 000
107 HARROW CIRCLE A
GREENVILLE 27834 919 758-3812

WILLIAMS, JOHN HOWARD IM 000
145 JEFFERSON ST., APT. C-6
HARTFORD, CT 06106 203 549-597[illegible]

WILSON, CATHY JO AN 000
138 IVY DR.
CHARLOTTESVILLE, VA 22901 804 296-808[illegible]

WOMBLE, JAMES CORNELIUS 032
170 PENMOKEN PARK A
LEXINGTON, KY 40503 606 278-308[illegible]

WOMBWELL, JOSEPH ORS /HS 032
2417 BRUTON A
DURHAM 27706 919 489-9312

WOODARD, WARDEN LEWIS, III IM /HEM 060
420 RALEIGH AVE. A
BIRMINGHAM, AL 35209 205 934-2080

WOODRUFF, WILLIAM WALTER, III DR 032
PO BOX 5007 A
HIGH POINT 27262

YADAV, SANJAY SINGH N/IM 032
BOX 3053, DUMC A
DURHAM 27710 919 286-2352

YANG, FRANK YUN-PU GS 032
NC MEMORIAL HOSPITAL A
HOUSESTAFF MAIL ROOM, SURGERY
CHAPEL HILL 27514 919 966-4131

YEAGER, CHARLES FRANK TR /PTH 032
4205 LIVINGSTONE PLACE A
DURHAM 27707

YUCHA, KIM LEIGH PEELER PD 000
4906 KELLYWOOD CIRCLE A
GLEN ALLEN, VA 23060 804 747-1461

ZAGORIA, RONALD JAY DR 034
300 S. HAWTHORNE RD. A
DEPT. OF RADIOLOGY
WINSTON-SALEM 27103 919 748-4310

ZARZAR, NICHOLAS S. 9 032
D-7 VILLAGE GREEN CONDOS A
CHAPEL HILL 27514 919 967-8004

ZELDIN, DARRYL C. IM 032
4800 UNIVERSITY DR. A
DURHAM 27707 919 286-3904

ZIMMERMAN, CAROL FRANCES OPH /N 032
784 N. STRATFORD ROAD A
WINSTON-SALEM 27104 919 748-3504

ZISLIS, PAUL DAVID P 032
1002 WILLOW DR. #58 A
CHAPEL HILL 27514 919 933-7754

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300 S. HAWTHORNE RD., BOX 447 A S
WINSTON-SALEM 27103 919 760-2292

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217-B NEW DR. APT. D A S
WINSTON-SALEM 27103 919 722-7946

LLEN, JOANNE BELL 034
PO BOX 448 A S
300 S. HAWTHORNE RD.
WINSTON-SALEM 27103 919 777-8288

LLIGOOD, DAVID BLAIR 034
1821 ELIZABETH AVE. A S
WINSTON-SALEM 27103 919 723-6041

NAGNOS, DAMON PHILIP 034
832 LOCKLAND AVE. A S
WINSTON-SALEM 27103 919 724-9897

RROWOOD, JOHN P., JR. 034
2307-D CLOVERDALE AVE. A * S
WINSTON-SALEM 27103 919 724-7794

AGWELL, ROBERTA L. 034
1811 ELIZABETH AVE. A S
WINSTON-SALEM 27103 919 722-3154

ARTON, JOHN HOMER, JR. 034
160 SARATOGA ST. A S
WINSTON-SALEM 27103 919 765-7946

ICKET, DAPHNE PATRICIA 034
2318-C ARDMORE TERRACE A S
WINSTON-SALEM 27103 919 723-4862

LACKBURN, KATHERINE S. 034
211-28 DALEWOOD DR. S
WINSTON-SALEM 27104 919 765-5952

LAKE, SIDNEY ALLEN 034
1730-J FRANCISCAN TERR. A S
WINSTON-SALEM 27107 919 788-5646

OYETTE-KOURI, FRANCES 034
BOWMAN GRAY, BOX 190 A S
WINSTON-SALEM 27103 919 723-7169

RIDGER, DEWEY HERBERT, III 034
7901 BAYMEADOWS CIR. E#574 A S
JACKSONVILLE, FL 32216

ROADBENT, BRYAN, J.H. 034
1219 CHURTON ST. #41 A S
WINSTON-SALEM 27103 919 721-9971

ROADWELL, FREEMAN EDWARD, III 034
306 SPLIT RAIL CIR., APT. 201 A S
NEWPORT NEWS, VA 23602

ROWN, ANNE BARBARA 034
2055-A ACADEMY ST. A * S
WINSTON-SALEM 27103 919 722-2275

ROWNING, DOUGLAS GUY 034
2050 CRAIG ST., APT. 23 A S
WINSTON-SALEM 27103 919 723-6603

RUNER, ROBERT KINCAID 034
1732 CAMDEN ROAD A S
WINSTON-SALEM 27103 919 723-5504

YRD, KERRY WENDELL 034
152 CHARLESTOWNE CIRCLE A S
WINSTON-SALEM 27103 919 765-3033

ALDWELL, GEORGE LEONHARD,JR. 034
2038 QUEEN ST. A S
WINSTON-SALEM 27103 919 722-3629

ARR, JENIFER 034
248 S. SUNSET DR. A S
WINSTON-SALEM 27103 919 773-0369

ARTY, BRIAN CLIFFORD 034
120-4 RAINRIDGE DR. A S
WINSTON SALEM 27104 919 765-7147

ASEY, DEBORAH M. 034
138 N. SUNSET DR. APT. #2 A * S
WINSTON-SALEM 27101 919 724-4442

HAN, STEVEN PING 034
BOWMAN GRAY STUDENT BOX 91 S
WINSTON-SALEM 27103 919 724-1708

CHANDLER, HOWARD CHRISTY, JR. 034
3716 S. W. 2ND PLACE A S
GAINESVILLE, FL 32607 919 722-3709

CHEREN, ISA 034
1900 QUEEN ST., APT. C-8 A S
WINSTON-SALEM 27103 919 724-3782

CINTRON, RUBEN 034
300 S. HAWTHORNE RD. A P S
MED. STUDENT, BOX 336
WINSTON-SALEM 27103 919 773-1564

CLARK, ALAN BOYD 034
BOWMAN GRAY, BOX 93 A S
WINSTON-SALEM 27103 919 724-4572

CLEVELAND, JEFFREY ALLEN 034
2000 VIRGINIA ROAD S
WINSTON-SALEM 27104 919 723-8536

COLE, DEBRA WULFHORST 034
840 MAGNOLIA DR. A S
WINSTON-SALEM 27103 919 723-4036

COLE, ROGER DALE 034
840 MAGNOLIA ST. A S
WINSTON-SALEM 27103 919 724-0761

COPELAND, GARY BRENT 034
2080 QUEEN ST. A S
WINSTON-SALEM 27103 919 724-4537

COWARD, HOLLYJEAN 034
305 S. HAWTHORNE RD. APT. 8 A S
WINSTON-SALEM 27103 919 724-4554

COX, JEFFREY NEAL 034
537 S. HAWTHORNE RD. APT. 9 A S
WINSTON-SALEM 27104 919 725-3571

CRUM, AMY ELIZABETH 034
305 S. HAWTHORNE RD. APT. #6 A S
WINSTON-SALEM 27103

CRUM, BRYAN GLENN 034
315 TAYLOR ST., APT. O A S
WINSTON-SALEM 27101 919 725-7944

CUNNINGHAM, JOSEPH W., JR. 034
100 CAROLINA CIRCLE A S
WINSTON-SALEM 27104 919 725-7803

DE LUCA, PAMELA S. 034
1815 BRANTLEY ST. A S
WINSTON-SALEM 27103 919 723-9695

DIROCCO, JUDITH GERALYN 034
1725-B FRANCISCAN TERR. A S
WINSTON-SALEM 27107 919 788-4844

DIRR, LOUISE YOUNGER 034
532 POLO ROAD A S
WINSTON-SALEM 27106

DOBYNS, RICHARD JOSEPH 034
2517 OLD SALISBURY RD. A S
WINSTON-SALEM 27107 919 785-2274

DORSEY, DEANNA LYNN 034
312 GROVE PARK AVE. #2 A S
WINSTON-SALEM 27103 919 723-3042

DRESSER, LEE POTTER 034
1631-C NORTHWEST BLVD. A S
WINSTON-SALEM 27104 919 722-3712

DUBOW, DAVID ALAN 034
1957 STONEWOOD DR. A S
WINSTON-SALEM 27103 919 768-2751

DUNCAN, THANE EDWARD 034
821 S. HAWTHORNE ROAD A S
WINSTON-SALEM 27103 919 748-4407

DUNSON, MARY E. 034
BOX 344, BOWMAN GRAY MED. SCH. A S
300 S. HAWTHORNE RD.
WINSTON-SALEM 27103 919 723-0527

EATON, JEFFREY GRAY 034
103 CAROLINA CIRCLE A S
WINSTON-SALEM 27104 919 721-9163

ELLISON, THOMAS SCOTT 023
2401 FAIRWAY DR. A S
WINSTON-SALEM 27103 919 722-1807

ENGELSTAD, ANNE CARINE A. 034
108 OLD OAK CIRCLE #B2 A S
WINSTON-SALEM 27106 919 767-8331

EPSTEIN, SUSAN ELISE 034
1815 BRANTLEY ST. A * S
WINSTON-SALEM 27104

FEIN, DOUGLAS A. 034
300 S. HAWTHORNE RD. A S
BOX 484, BOWMAN GRAY
WINSTON-SALEM 27103 919 724-4478

FERNANDEZ, ISABEL M. 034
1900 QUEEN ST. APT. C-1 A S
WINSTON-SALEM 27103 919 723-3463

FERRARI, CAROLYN JEAN 034
2920 NORTHBRIDGE S
WINSTON-SALEM 27103 919 765-5288

FLOWE, KENNETH MICHAEL 034
1608-H NORTHWEST BLVD. A S
WINSTON-SALEM 27104 919 761-1246

FRANCIS, KENNETH ROBERT 034
1400 CLIFF ST. #F A S
WINSTON-SALEM 27107 919 723-3817

FRIEDFELD, STEFANIE ANN 034
103 PERSHING AVE. A S
WINSTON-SALEM 27103 919 722-9861

GALLANIS, CRAIG T. 034
1333 MADISON AVE. A S
WINSTON-SALEM 27103 919 722-6835

GOWER, VERLIA COLE 034
918 MADISON AVENUE A S
WINSTON-SALEM 27103 919 723-8602

GREVIOUS, STEPHEN SCOTT 034
1641-P NORTHWEST BLVD. A S
WINSTON-SALEM 27104 919 724-4541

GROSSMAN, SARAH RONA 034
1608-K NORTHWEST BLVD. A * S
WINSTON-SALEM 27103 919 723-3868

HACKLANDER, SHELLEY W. 034
PO BOX 427 A * S
MARS HILL 28754 704 689-4238

HADDAD, MICHEL GEORGE 034
300 S. HAWTHORNE RD. BOX 487 A S
WINSTON-SALEM 27103 919 723-7442

HALL, JOHN HOWLAND, JR. 034
300 S. HAWTHORNE RD. BOX 122 A * S
WINSTON-SALEM 27103 919 724-4639

HARBOURNE, KEVIN S. 034
1641 NORTHWEST BLVD. APT. D A S
WINSTON-SALEM 27104 919 724-7390

HARROLD, LAURIE J. 034
324 CRAFTON ST. A S
WINSTON-SALEM 27103 919 723-5882

HARTMAN, MARJORIE LYNN 034
318 GROVE PARK AVE. A S
WINSTON-SALEM 27103 919 725-8909

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1439-L HUTTON ST. A S
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HATCH, STEPHEN J. 034
817 CHANCY LN. A S
WINSTON-SALEM 27104 919 765-4179

HEDBERG, ANN ELIZABETH 034
2810-D PELHAM PL. A S
WINSTON-SALEM 27106 919 722-5662

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2841 TULLY SQUARE #F A S
2700 REYNOLDA RD.
WINSTON-SALEM 27106 919 723-7554

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537 S. HAWTHORNE RD. #12 A S
WINSTON-SALEM 27103 919 761-8294

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221 LOCKLAND AVE. A S
WINSTON-SALEM 27103 919 722-1325

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2930 CLUB PARK ROAD A S
WINSTON-SALEM 27104 919 760-1226

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WINSTON-SALEM 27103 919 722-9378

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1615 NORTHWEST BLVD. A S
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731 LYNN DEE DR.
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315 LOCKLAND AVE. A S
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3924 OLD VINEYARD RD., #55 A S
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WINSTON-SALEM 27107 919 788-4844

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WINSTON-SALEM 27103 919 723-3171

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CHAPEL HILL 27514 919 967-0970

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3319-L CIRCLE BROOK DR. SW A S
ROANOKE, VA 24014 703 774-4675

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WINSTON-SALEM 27103 919 724-6289

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WINSTON-SALEM 27103 919 722-5371

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300 S. HAWTHORNE RD., BOX 374 A * S
WINSTON-SALEM 27103 919 777-0769

KILBY-SIMPSON, MARTHA ANN 034
420 BRIARLEA RD. A S
WINSTON-SALEM 27104 919 768-2403

KINNEY, STEPHEN LEIGH 034
130 LIONHEAD COURT A S
BALTIMORE, MD 21237 301 574-1523

KOSFELD, SCOTT LEE 034
420 LOCKLAND AVE. A S
WINSTON-SALEM 27103 919 722-9025

KOURI, DAVID LAWRENCE 034
1935 W. FIRST ST. A S
WINSTON-SALEM 27104 919 723-7169

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2015 ELIZABETH AVE. A S
WINSTON-SALEM 27103 919 724-6405

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452 CORONA ST. A * S
WINSTON-SALEM 27103 919 723-5305

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WINSTON-SALEM 27103 919 454-3742

LETTIERI, SALVATORE CARMINE 034
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WINSTON-SALEM 27103 919 723-1839

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LINS, MARK DAVID 034
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646 BRENT ST. S
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WINSTON-SALEM 27104 919 768-7293

RICHTER, RICHARD LESTER 034
1700 GRACE ST. S
WINSTON-SALEM 27103 919 722-5918

RIGGAN, JASPER SIMMONS, III 034
300 S. HAWTHORNE RD. A S
STUDENT BOX 537
WINSTON-SALEM 27103 919 760-1795

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1106 MELROSE ST. A * S
WINSTON-SALEM 27103 919 761-1590

ROBACZEWSKI, DAVID L. 034
261-G DALEWOOD DR. A S
WINSTON-SALEM 27104 919 760-1643

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300 S. HAWTHORNE RD. A S
STUDENT BOX 543-BOWMAN GRAY
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1008 S. HAWTHORNE RD. A
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206 OAKWOOD CT. A
WINSTON-SALEM 27103 919 760-164

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WINSTON-SALEM 27104 919 725-924

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WINSTON-SALEM 27101 919 722-825

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WINSTON-SALEM 27103 919 722-871

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UELAND, FREDERICK RAND 03
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WINSTON-SALEM 27103 919 723-007

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204 PERSHING AVE. SW
WINSTON-SALEM 27103 919 725-293

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2353 QUEEN ST. #D A
WINSTON-SALEM 27103 919 722-926

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WINSTON-SALEM 27103 919 761-089

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COLUMBIA, SC 29206

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2418 JEFFERSON AVE. A
WINSTON-SALEM 27103 919 722-458

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DURHAM 27710

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910 CONSTITUTION APT. 717 A S
DURHAM 27705

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DURHAM 27705 919 286-3909

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DURHAM 27707 919 489-3621

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BOX 2883, DUMC A S
DURHAM 27710 919 286-1217

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DURHAM 27713 919 489-0477

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DURHAM 27705 919 477-8535

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DURHAM 27712 919 471-0865

HALL, BRUCE LEE 032
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5-B BEECH LAKE APTS.
DURHAM 27707 919 493-0448

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DURHAM 27710 919 684-6132

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DURHAM 27710 919 471-0258

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HOFFMAN, KRISTINA MARIE 032
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DURHAM 27705 919 383-9290

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BOX 2875, DUMC S
DURHAM 27710 919 493-8258

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1001 NORWOOD AVE. A S
DURHAM 27707 919 383-8602

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DURHAM 27707 919 493-3695

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DURHAM 27710 919 286-9385

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DURHAM 27705 919 286-3719

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DURHAM 27710 919 493-1678

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DURHAM 27710 919 493-0267

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DURHAM 27701 919 688-0577

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LIN, JANET CHYNG-JIAU 032
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DURHAM 27705 919 286-7851

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DURHAM 27705 919 383-0050

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BEECHWOOD APTS. 24-A A S
4800 UNIV. DR. EXT.
DURHAM 27707 919 286-1409

MCDONNELL, KENNETH PAUL 032
1911 ERWIN RD., APT. B A S
DURHAM 27705

MCKEE, SCOTT 032
BOX 2847, DUMC A S
DURHAM 27710 919 383-5828

MCLOUGHLIN, THOMAS M. 032
3924 LINDEN TERRACE A S
DURHAM 27705 919 383-7190

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811 VICKERS AVE. A S
DURHAM 27701 919 688-0527

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DURHAM 27705 919 383-0025

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MOSELEY, WALTON STROZIER 032
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DURHAM 27705 919 286-3311

MULY, EMIL C., III 032
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DURHAM 27705 919 383-0529

NANDA, SUMIT 032
BOX 2872, DUMC A S
DURHAM 27710 919 684-5142

NASTALA, CHET LAWRENCE 032
BOX 2779, DUMC A S
DURHAM 27710

NATHAN, LAUREN 032
548 FINLEY ST. A S
DURHAM 27705 919 383-4227

PANZA, WILLIAM SEBASTIAN 032
1800 WILLIAMSBURG RD. APT. 8-E A S
DURHAM 27707 919 489-4104

PAOLINI, JOHN FRANK 032
BOX 2832, DUMC A S
DURHAM 27710

PAPADOPOULOS, SPYRIDON G. 032
3700-205 CHIMNEY RIDGE PL. A S
DURHAM 27713 919 493-0718

PARANKA, JULIA ANNE 032
3536 MAYFAIR ST. #102 A S
DURHAM 27707 919 493-7736

PARLIER, REGGIE DAVID 032
828 HOLLY HEDGE DR. A S
LEWISVILLE 27023 919 479-5559

PATTON, SUZANNE ELIZABETH 032
2808 ERWIN RD., APT. 6A A S
DURHAM 27705 919 383-0446

PERONA, BARBARA PIEZ 032
1022 GREEN ST. A S
DURHAM 27701 919 682-3942

PORTER, LISA ELLEN 032
2681 HITCHCOCK DR. A S
DURHAM 27705

POWELL, ALLEN ORLO 032
RT. #1, BOX 172 A * S
DURHAM 27705 919 493-8238

PRACYK, JOHN BRADFORD 032
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DURHAM 27705 919 286-7365

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DURHAM 27705 919 684-7590

PRUTHI, ASIT SOM 032
311 S. LASALLE ST., APT. 38N A S
DURHAM 27705 919 286-2615

PURUT, CEMIL M. 032
BOX 2765, DUMC A S
DURHAM 27710 919 684-5939

RISKA, PAUL FRANK 032
BOX 2733, DUMC A S
DURHAM 27710 919 383-5620

RODABAUGH, KERRY J. 032
1315 MORREENE RD. APT. 23L A S
DURHAM 27705 919 847-9614

ROSENBERG, MARK ROBERT 032
BOX 2841, DUMC A S
DURHAM 27710 919 493-2846

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BOX 2769, DUMC * S
DURHAM 27710 919 286-3391

RUSTAD, TODD J. 032
1315 MORREENE RD. APT. 27I A S
DURHAM 27705 919 383-5828

SAFRAN, MARC RAYMOND 032
BOX 2769, DUMC A S
DURHAM 27710 919 383-4055

SAVITT, MICHAEL ANDREW 032
3702 CHIMNEY RIDGE PL. A S
DURHAM 27713 919 286-1989

SCHMALTZ, ROBERT ANDREW 032
604 W. KNOX ST. A S
DURHAM 27701 919 383-5972

SEGRETI, EILEEN MARIE 032
538 FINLEY ST. A S
DURHAM 27705 919 383-7558

SLAUGHTER, THOMAS FREEMAN 032
BOX 2862, DUMC A S
DURHAM 27710 919 286-9442

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FUNCIK, THOMAS 032
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Alphabetical List of Members
Fifty Year Club

The House of Delegates of the North Carolina Medical in May of 1953, authorized the Executive Council of the Society to establish a special recognition for those physicians residing in the State of North Carolina who were members currently of the State Medical Society, who had established legal practice of medicine and who had actively practiced medicine during their life time for a period of fifty years,

Listed below in alphabetical order are the names and addresses of those physicians who resided in North Carolina and whom the North Carolina Medical Society has recognized as members of the FIFTY YEAR CLUB of the State Medical Society. This list will be added to from year to year and likewise subtracted from as losses to this club group are sustained and reckoned.

The listing for 1987 only may include Fifty Year Club members who have passed away since their recognition. The list for other years will include only those members surviving.

1968—Smith, Claiborne Thweat, M.D., Rocky Mount

1969—Marsh, Frank Baker, M.D., Salisbury

1970—Lovelace, Thomas Claude, M.D., Henrietta
Lyday, Russell Osborne, M.D., Greensboro

1971—Caviness, Verne Strudwick, M.D., Raleigh
Geddie, Kenneth Baxter, M.D., High Point
Lutterloh, Isaac Hayden, Sr., M.D., Sanford
Norburn, Charles S., M.D., Biltmore

1973—Griffin, Harold Walker, M.D., Hickory
Prather, Fonzo Goff, M.D., Asheville
Robertson, John Newton, M.D., Fayetteville

1974—Bowles, Francis Norman, M.D., Durham
Monroe, Clement R., M.D., Pinehurst
Sloan, Allen Barry, M.D., Charlotte

1975—Ader, Ottis Ladeau, M.D., Durham
Dale, Grover Cleveland, M.D., Goldsboro
Hart, Oliver James, Sr., M.D., Winston-Salem
Howard, Corbett Etheridge, M.D., Goldsboro
Little, Lonnie Marcus, M.D., Statesville
Norburn, Russell Lee, M.D., Asheville
Whaley, James Davant, M.D., Hickory

1976—Bennett, Ernest Claxton, M.D., Elizabethtown
Combs, Joseph John, M.D., Raleigh
Davis, Phililp Bibb, M.D., High Point
Nowlin, George Preston, M.D., Charlotte
Royal, Donnie Martin, M.D., Salemburg
Tuggle, Allan Davis, M.D., Charlotte
Young, John Clingman, M.D., Asheville

1977—Battle, Newsome P., M.D., Rocky Mount
Brown, Kermit English, M.D., Asheville
Easom, Herman Franklin, M.D., Wilson
Felton, Robert Lee, Jr., M.D., Carthage
Kempner, Walter, M.D., Durham
MacRae, John Donald, M.D., Dunedin, FL
Moss, George Oren, M.D., Forest City
Richman, Samuel, M.D., Greensboro

1978—Houser, Forest Melville, M.D., Cherryville
Hunter, John Baldwin, M.D., Shelby
Leonard, Jacob Calvin, Jr., M.D., Lexington
Newland, Charles Logan, M.D., Brevard
Ogburn, Lundie Calvin, M.D., Winston-Salem
Richardson, William Perry, M.D., Chapel Hill

1979—Baldwin, Marie, M.D., Asheville
Covington, John M. C., M.D., Roanoke Rapids
Floyd, William Russel, M.D., Concord
Kendall, Benjamin Horton, M.D., Shelby
Kneedler, William Harding, M.D., Concord
McDowell, Roy Hendrix, M.D., Belmont
Morris, Rae Henderson, M.D., Concord
Rhodes, John Sloan, M.D., Raleigh

1980—Beavers, James Wallace, M.D., Greensboro
Bird, Ignacio, M.D., Greensboro
Bonner, Merle Dumont, M.D., Greensboro
Cathell, Edwin Jennings, M.D., Lexington
Cook, William Eugene, M.D., Fayetteville
Crowell, Lester Avant, Jr., M.D., Lincolnton
Crumpler, James Fulton, M.D., Rocky Mount
Duffy, Charles, M.D., New Bern
Hare, Ransom Bryant, Jr., M.D., Black Mountain
Jaynes, Grace S., M.D., Tryon
LeBauer, Maurice Leon, M.D., Greensboro
LeBauer, Sidney Ferring, M.D., Greensboro
Lewis, Clifford Whitfield, M.D., High Point
Orgain, Edward Stewart, M.D., Durham
Owens, Zack Doxey, M.D., Camden
Roberson, Robert Stuart, M.D., Hazelwood
Robinson, Charles Wilson, M.D., Charlotte
Seay, Hillis Ledbetter, M.D., Huntersville
Shaw, Lloyd R., M.D., Statesville
Wilson, Stephen Glenn, Sr., M.D., Angier

1981—Cranz, Oscar William, M.D., Kinston
Field, Bob Lewis, M.D., Salisbury
Fleming, Laurence Edwin, M.D., Charlotte
Green, Harold D., M.D., Punta Gorda, FL
Hedgpeth, Edward McGowan, M.D., Chapel Hill
Heisabeck, Belmont Augustus, M.D., Winston-Salem
Highsmith, William Cochran, M.D., Fayetteville
Holmes, George Washington, M.D., Winston-Salem
McLeod, Vida Canaday, M.D., Southern Pines
Owen, Robert Harrison, M.D., Canton
Papineau, Alban, M.D., Plymouth
Paschal, George Washington, Jr., M.D., Raleigh
Prefontaine, J. Edouard, M.D., Greensboro
Redwine, James Daniel, M.D., Lexington
Register, John Francis, M.D., Greensboro
Ruark, Robert James, M.D., Raleigh
Sargent, Winston Arthur Y., M.D., Burnsville
Slate, Marvin Longworth, M.D., High Point
Stroupe, Albertus Ula, Jr., M.D., Mount Holly
Walsh, C. Douglas, M.D., Salilsbury
Williams, John Dudley, Jr., M.D., Greensboro
Wilson, Roeby Bryant, M.D., Gastonia
Young, David Alexander, M.D., Raleigh

1982—Arena, Jay Morris, M.D., Durham
Ayers, James Salisbury, M.D., Clinton
Blackerby, James, M.D., New Bern
Bradley, Harold John, Sr., M.D., Greensboro
Brinkhous, Kenneth Merle, M.D., Chapel Hill
Caldwell, Lawrence McClure, Sr., M.D., Newton
Callaway, Jasper Lamar, M.D., Durham
Cox, Alexander McNeil, M.D., Madison
Fales, Robert Martin, M.D., Wilmington
Ferguson, George Burton, M.D., Durham
Fleming, William Leroy, M.D., Chapel Hill
Gerrard, Robert Lemley, M.D., Greensboro
Graham, Charles Pattison, M.D., Wilmington
Graham, William Alexander, M.D., Durham
Haar, Frederick Behrend, M.D., Greenville
Holbrook, J. Sam, M.D., Statesville
Lund, Herbert Zachareus, M.D., Greensboro
Lupton, Carroll Crescent, M.D., Greensboro
Mayer, Walter Brem, M.D., Charlotte
Paden, Paul Alexander, M.D., Charlotte
Printz, Don Ralph, M.D., Asheville
Robertson, James Mebane, M.D., Harmony
Sox, Carl Caughman, M.D., Kenly
Worley, James Harr, M.D., Asheville
Zealy, A. H., M.D., Goldsboro

1983—Baker, Lenox Dial, Sr., M.D., Durham
Barnhardt, Albert Earl, M.D., Kannapolis
Battle, Margaret E. White, M.D., Rocky Mount
Bellows, Rowland Thompson, M.D., Charlotte
Biggs, John Irvin, M.D., Lumberton
Black, Paul Adrian L., M.D., Wilmington
Boyce, Oren Douglas, M.D., Gastonia
Brown, Walter John, M.D., Pittsboro
Cardwell, Willard, M.D., Greensboro
Conard-Corkey, Elizabeth M., M.D., Charlotte
Dalton, Bennie Booker, M.D., Wrightsville Beach
Dees, John Essary, M.D., Durham
Donnelly, Grant L., M.D., Salisbury
Dunn, Richard Berry, M.D., Climax
Flythe, William Henry, M.D., High Point
Garrison, Ralph Bernard, M.D., Hamlet
Gay, Charles Houston, M.D., Charlotte
Glenn, Channing, M.D., Elizabethtown
Harrill, Henry Clay, M.D., Greensboro
Harris, Isaac Emeron, Jr., M.D., Durham
Hawes, Charles Forest, M.D., Rose Hill
Hedgpeth, William Carey, M.D., Lumberton
Henderson-Smathers, Irma C., M.D., Asheville
Hightower, Felda, M.D., Winston-Salem
Jones, O. Hunter, M.D., Charlotte
Jones, Thomas Thweatt, M.D., Durham
Justa, Samuel Harry, M.D., Palm Beach, FL
Kamp, Maurice Arthur, M.D., Charlotte
Leiby, George Martin, M.D., Albermarle
Lore, Ralph Eli, M.D., Lenoir
McKee, Lewis Middleton, M.D., Durham
Monroe, Lance Truman, M.D., Concord
Odom, Guy Leary, M.D., Durham
Olson, Robert Mortimer, M.D., Kenly
Outland, Robert Boone, M.D., Rich Square
Pitts, William Reid, M.D., Charlotte
Raney, Richard Beverly, Sr., M.D., Chapel Hill
Roberts, Roy Foster, M.D., Asheville
Salle, George Frederic, M.D., Greenville
Scheibel, H. Max, M.D., Durham
Shinn, George Clyde, M.D., China Grove
Sinclair, L. Gordon, M.D., Raleigh
Smith, O. Norris, M.D., Greensboro
Stead, Eugene Anson, Jr., M.D., Bullock
Vance, Shelby William, M.D., Pineola
Verhoeff, Dirk, M.D., Hilton Head Island, SC
Wall, William Stanley, M.D., Rocky Mount
Wearn, Franklin Stafford, M.D., Statesville
Whitaker, James Allen, M.D., Rocky Mount
Wilson, Frank Elmore, M.D., Lenoir City, TN
Wilson, William Lenoir, M.D., Pensacola, FL
Woodard, Barney Lelon, M.D., Kenly
Yurko, Anthony Andrew, M.D., Tryon

1984—Alexander, James Moses, M.D., Charlotte
Barefoot, William Frederick, M.D., Whiteville
Carter, Warren Dallas, M.D., San Jose, CA
Croom, Robert DeVane, Jr., M.D., Maxton
Dees, Susan Coons, M.D., Durham
Hammond, Alfred Franklin, Jr., M.D., New Bern
Jamison, Edgar Lamont, M.D., Asheboro
Lohr, Dermot, M.D., Lexington
Meadows, Joseph Herman, M.D., Wilson
Miller, Malcolm Elmore, M.D., Burlington
Oliver, Joseph Andrew, M.D., Rockwell
Quigless, Milton Douglas, Sr., M.D., Tarboro
Roberson, Edward Leon, M.D., Tarboro
Sain, Fletcher Dover, M.D., Rocky Mount
Schnee, Charles Frederick, M.D., New Bern
Simmons, James Slater, M.D., Sanford
Smith, Roy Meadows, M.D., Greensboro
Taylor, Andrew Duval, M.D., Charlotte
Taylor, Thomas Jefferson, M.D., Roanoke Rapids
Umphlet, Thomas Leonard, M.D., Raleigh
Warwick, Hight Claudius, M.D., Greensboro
Whitaker, Richard Harper, M.D., Kernersville
Wynn, Roy Spurgeon, M.D., Charlotte

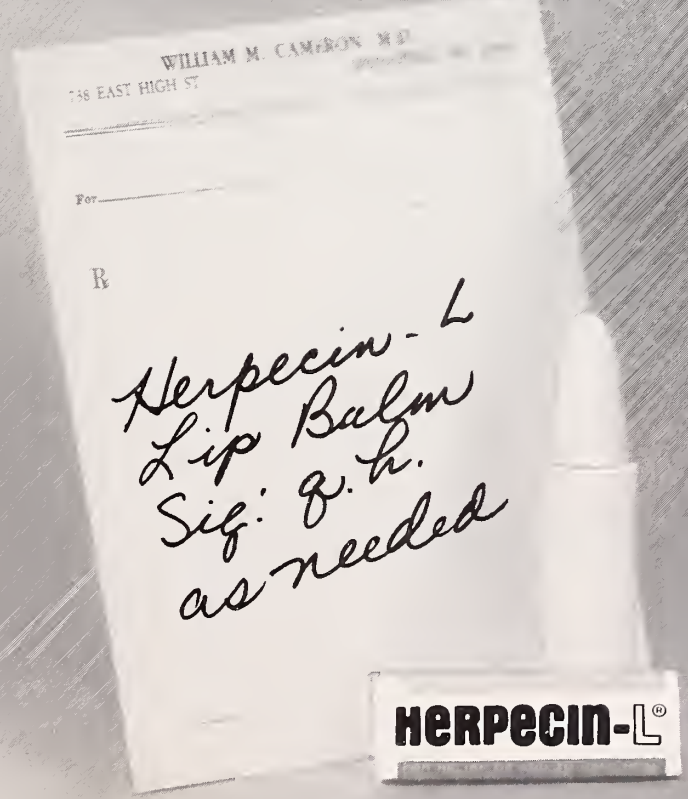
1985—Bacon, Harold Lyle, M.D., Bryson City
Bertling, Marion Henry, M.D., Greensboro
Byerly, James Hampton, M.D., Sanford
Campbell, Joseph Lester, M.D., Wilson
Craig, Robert Lawrence, M.D., Asheville
Eyerman, Melvin Frederic, M.D., Winston-Salem
Fisher, Marshall Louis, M.D., New York, NY
Hamrick, John Carl, M.D., Shelby
Kendall, John Harold, M.D., Clinton
King, Duncan Ingraham C., M.D., Hendersonville
Knoefel, Arthur Eugene, Jr., M.D., Black Mountain
McKenzie, Wayland Nash, M.D., Albemarle
McLeod, Mary Margaret, M.D., Sanford
Mock, Charles Glenn, M.D., Morehead City
Pope, Samuel A., M.D., Beulaville
Powell, E. Charles, M.D., Goldsboro
Reynolds, Ernest Harold, M.D., Reidsville
Roberts, Louis Carroll, M.D., Durham
Rollins, Charles Dick, M.D., Henderson
Royster, Chauncey Lake, M.D., Raleigh
Stephenson, Bennett Edward, M.D., Rich Square
Stevens, Joseph Blackburn, M.D., Greensboro
Stewart, Daniel Niven, Jr., M.D., Hickory
Stewart, John Reagan, M.D., Statesville
Tyson, Woodrow Wilson, M.D., High Point
Williams, Robert, M.D., Raleigh
Wood, Everet Hardenbergh, M.D., Brevard
Wright, John Joseph, M.D., Chapel Hill

1986—Bethel, Millard Baimbridge, M.D., Chapel Hill
Bundy, William Lumsden, M.D., North Wilkesboro
Caldwell, Robert Manfred, M.D., Dobson
Etherington, John Lawrence, M.D., Goldsboro
Fabian, Denis, M.D., Fayetteville

Gunter, June U., M.D., Durham
Harmon, Raymond Harris, M.D., Boone
Hinman, Havilah Edward, M.D., Skyland
Jones, Craig S., M.D., Naples, FL
Massengill, G. K., M.D., Raleigh
McAlister, Jean Colvin, M.D., Greensboro
Miller, Milton Leonard, M.D., Chapel Hill
Morehead, Robert Page, M.D., Winston-Salem
Newell, Robert Bartholomew, M.D., Morehead City
Rogers, Seymour Shulman, M.D., Greensboro
Sealy, Will Camp, M.D., Macon, GA
Troutman, Baxter Suttles, M.D., Lenoir
Verhoeff, Dirk, M.D., Hilton Head, SC
Wadsworth, George Henry, M.D., Ahoskie
Walker, Elmer Pixley, M.D., Wilmington
Warshauer, Samuel Edward, M.D., Wilmington
Welton, David Goe, M.D., Charlotte
Worth, Thomas Clarkson, M.D., Raleigh
Wyman, John Sheldon, M.D., Hendersonville

1987—Anderson, Elbert Carl, M.D., Wilmington
Barringer, Archibald L., M.D., Mt. Pleasant
Biggs, John Irvin, M.D., Lumberton
Burroughs, Ruth Reuben, M.D., Raleigh
Cannon, Eugene Bolivia, M.D., Asheboro
Clapp, Hubert Lee, M.D., Swannanoa
Coffey, James Cecil, M.D., Salisbury
Corcoran, Edwin Emmons, M.D., Asheville
Cromartie, William James, M.D., Chapel Hill
Durr, Walter Jacob, M.D., Sylva
Edmondson, Frank, Jr., M.D., Asheboro
Elliott, Hardie Bishop, M.D., Southern Pines
Feezor, Charles Noel, M.D., Salisbury
Floyd, Anderson Gayle, M.D., Whiteville
Fresca, Victor Attilio, M.D., Morehead City
Gray, Cyrus Leighton, M.D., High Point
Grim, Kenneth Boyd, M.D., Long Beach
Howell, Charles Maitland, Jr., M.D., Winston-Salem
Matthews, William Camp, M.D., Chester, SC
Norfleet, Charles Millner, Jr., M.D., Winston-Salem
Owen, Charles Fletcher, Jr., M.D., Asheboro
Pishko, Michael T., M.D., Pinehurst
Smith, Allen Dale, M.D., Durham
Street, Murdo Eugene, Jr., M.D., Glendon
Vaughan, Edwin Warner, M.D., Greensboro
Wharton, C. Watson, M.D., Smithfield
Williams, McChord, M.D., Charlotte
Williamson, Rossie Marshall, M.D., N. Myrtle Beach, SC
Wilson, Jack Kennedy, Sr., M.D., Wilmington
Wilson, Samuel Allen, M.D., Lincolnton
Wright, John Everett, M.D., Fuquay-Varina

Dx: recurrent herpes labialis



"HERPECIN-L is my **treatment of choice** for perioral herpes." GP, NY

"HERPECIN-L appears to actually **prevent** the blisters . . . used **soon enough.**" DDS, MN

"HERPECIN-L®. . . a **conservative approach** with **low risk/high benefits.**" MD, FL

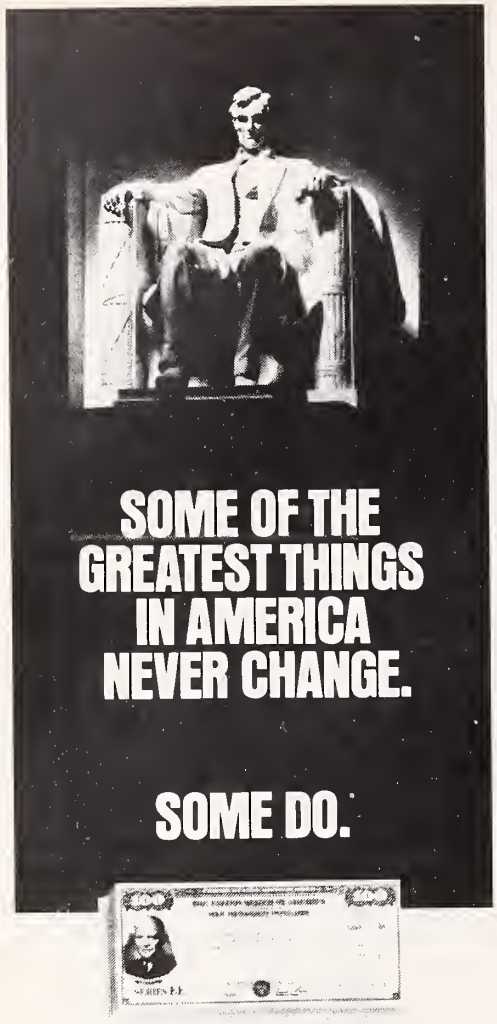
"Used at **prodromal symptoms . . .** blisters **never formed . . .** remarkable." DH, MA

"(In clinical trials) . . . **response** was **dramatic. HERPECIN-L . .** proven **far superior.**" DDS, PA

"All patients claimed **shorter duration . . .** at **prodromal symptoms . . .** HERPECIN-L **averted** the attacks." MD, AK

OTC. *See P.D.R.* for information. For samples to make your own clinical evaluation, write: CAMPBELL LABORATORIES, INC., P.O. BOX 812-MD, FDR STATION, NEW YORK, N.Y. 10150

In North Carolina HERPECIN-L is available at all *Crown, Eckerd, Kerr, Mutual Drug, Revco and RiteAid* and other select pharmacies.



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U.S. Savings Bonds now pay like money market accounts! At the current rate—10.94%—you could double your money in less than seven years. Just hold Bonds for five years and you get the new higher variable rates. Plus, you get a guaranteed return. That's the kind of change anyone can appreciate.

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LIBRIUM® Ⓥ
chlordiazepoxide HCl/Roche
5-mg, 10-mg, 25-mg capsules
Before prescribing, please consult complete product information, a summary of which follows:
Indications: Monogement of onxiety disorders; short-term relief of onxiety symptoms, ocute olcohol withdrowol symptoms, preoperotive opprehension ond onxiety. Usuolly not required for onxiety or tension ossocioted with stress of everydoy life. Efficocy beyond four months not estoblished by systemotic clinicol studies. Periodic reossessment of theropy recommended.
Contraindications: Known hypersensitivity to the drug.
Warnings: Worn potients thot mentol ond/or physicol obilities required for tosks such os driving or operoting mochinery moy be impoired, os moy be mentol olertness in children, ond thot concomitont use with olcohol or CNS depressonts moy hove on odditive effect. Though physicol ond psychologicol dependence hove rorely been reported on recommended doses, use coution in odministering to oddiction-prone individuols or those who might increose dosoge. Withdrowol symptoms (including convulsions) reported ofter obrupt cessotion of extended use of excessive doses ore similor to those seen with borbiturotes. Milder symptoms reported infrequently when continuous theropy is obruptly ended. Avoid obrupt discontinuotion; groduolly toper dosoge.

***Usage in Pregnancy*: Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: In the elderly ond debilitoted, ond in children over six, limit to smollest effective dosoge (initiolly 10 mg or less per doy) to preclude otoxio or oversedotion, increosing groduolly os needed ond toleroted. Not recommended in children under six. Though generolly not recommended, if combinotion theropy with other psychotropics seems indicoted, corefully consider individuol phormocologic effects, porticulorly in use of potentioting drugs such os MAO inhibitors ond phenothiozines. Observe usuol precoutions in presence of impoired renol or hepotic function. Porodoxicol reoctions (*e.g.*, excitement, stimulotion ond ocute roge) hove been reported in psychiotric potients ond hyperoctive oggressive children. Employ usuol precoutions in treotment of onxiety stotes with evidence of impending depression; suicidol tendencies moy be present ond protective meosures necessory. Voriable effects on blood coogulotion hove been reported very rorely in potients receiving the drug ond orol onticoogulonts; cousol relotionship hos not been estoblished clinicolly. Due to isoloted reports of exocerbotion, use with coution in potients with porphyrio.
Adverse Reactions: Drowsiness, otoxio ond confusion moy occur, especiolly in the elderly ond debilitated. These ore reversible in most instonces by proper dosoge adjustment, but ore olso occosionolly observed ot the lower dosoge ronges. In o few instonces syncope hos been reported. Also encountered ore isoloted instonces of skin eruptions, edemo, minor menstruol irregulorities, nouseo ond constipotion, extropyromidol symptoms, increosed ond decreosed libido—oll infrequent ond generolly controlled with dosoge reduction; chonges in EEG potterns (low-voltoge fost octivity) moy oppeor during ond ofter treotment; blood dyscrosios (including ogronulocytosis), joundice ond hepotic dysfunction hove been reported occosionolly, moking periodic blood counts ond liver function tests odvisoble during protrocted theropy.
Usual Daily Dosage: Individuolize for moximum beneficiol effects. *Orol—Adults:* Mild ond moderate onxiety disorders ond symptoms, 5 or 10 mg *t.i.d.* or *q.i.d.*; severe stotes, 20 or 25 mg *t.i.d.* or *q.i.d. Geriatric patients:* 5 mg *b.i.d.* to *q.i.d.* (See Precoutions.)
Supplied: Librium® (chlordiozepoxide HCl/Roche) *Capsules*, 5 mg, 10 mg ond 25 mg—bottles of 100 ond 500; Tel-E-Dose® pockoges of 100, ovoiloble in boxes of 4 reverse-numbered cords of 25, ond in boxes contoining 10 strips of 10. Libritobs® (chlordiozepoxide/Roche) *Tablets*, 5 mg ond 10 mg—bottles of 100 ond 500; 25 mg—bottles of 100. With respect to clinicol octivity, copsules ond toblets ore indistinguishoble.

P.I. 0286

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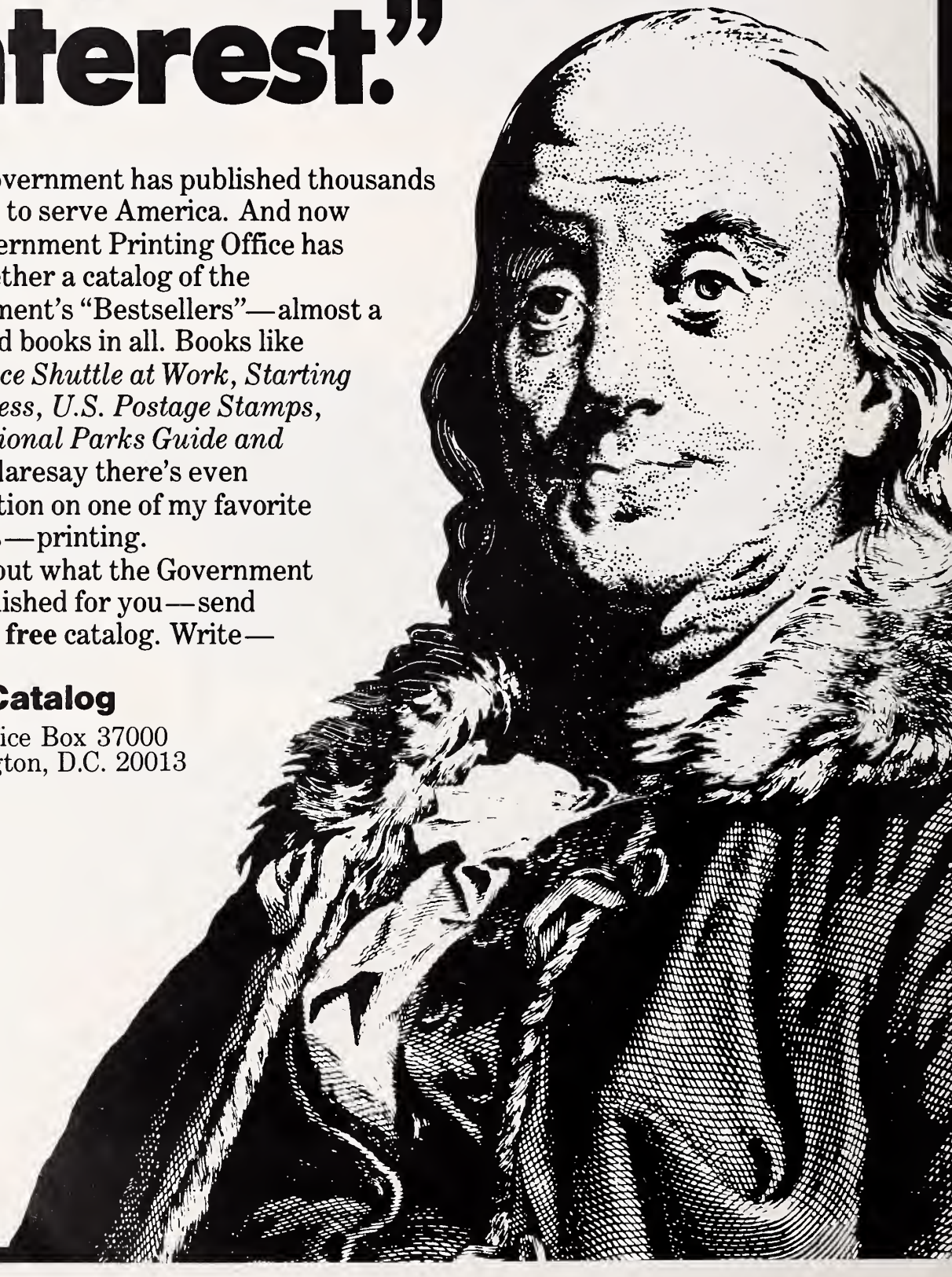
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Please see adjacent page for a summary of product information.

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Before prescribing, see complete prescribing information in SK&F CO. literature or *PDR*. The following is a brief summary.

WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of triamterene and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Angiotensin-converting enzyme (ACE) inhibitors can elevate serum potassium; use with caution with 'Dyazide'. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin (ACTH)). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function. Thiazides may add to or potentiate the action of other antihypertensive drugs. Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

BRS-DZ:L42

In Hypertension*... When You Need to Conserve K^+

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Serum K^+ and BUN should be checked periodically (see Warnings and Precautions).



Potassium-Sparing DYAZIDE®

25 mg Hydrochlorothiazide/**50 mg** Triamterene/SKF

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The unique red and white Dyazide® capsule: Your assurance of SK&F quality.



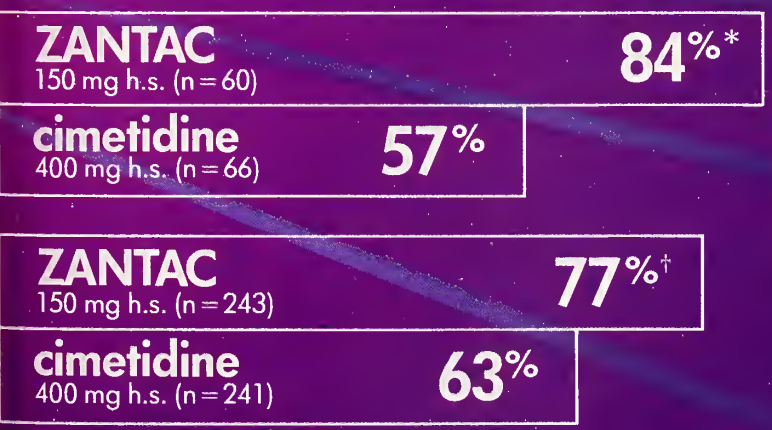
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A BETTER CHANCE FOR
AN ULCER-
Well-controlled clinical trials confirm:
ZANTAC 150 mg h.s. significantly superior to
cimetidine 400 mg h.s. for maintenance thera
in healed duodenal ulcers.

FREE FUTURE

Percent of patients ulcer-free after 1 year of therapy



*P = 0.01 †P = 0.0004 % life-table estimates

All patients were permitted prn antacids for relief of pain.
Adapted from Silvis[1] and Gaugh[2]

These two trials[1,2] used the currently recommended dosing regimen of cimetidine (400 mg h.s.) and ranitidine (150 mg h.s.). A comparison of other dosing regimens has not been studied.
The studied dosing regimens are not equivalent with respect to the degree and duration of acid suppression or suppression of nocturnal acid.
The superiority of ranitidine over cimetidine in these trials indicates that the dosing regimen currently recommended for cimetidine is less likely to be as successful in maintenance therapy.

Zantac® 150 h.s.

ranitidine HCl/Glaxo 150 mg tablets

Glaxo / ROCHE®

See next page for references and Brief Summary of Product Information.

ZAN375 July 1987

References: 1. Silvis SE, Griffin J, Hordin R, et al: Final repart on the United Stotes multicenter triol comparing ranitidine to cimetidine os mointenonce theropy fallowing healing of duadenal ulcer. *J Clin Gastraenterol* 1985;7(6):482-487.
2. Gough KR, Karman MG, Bordhon KD, et ol: Ranitidine and cimetidine in prevention of duodenal ulcer relopse: A dauble-blind, randomised, multicentre, camparative trial. *Lancet* 1984;ii:659-662.

ZANTAC® 150 Tablets
(ranitidine hydrachlaride)
ZANTAC® 300 Tablets
(ranitidine hydrochloride)

BRIEF SUMMARY OF PRODUCT INFORMATION

The following is o brief summary only. Before prescribing, see complete prescribing informatian in ZANTAC® product labeling.

INDICATIONS AND USAGE: ZANTAC® is indicoted in:
1. Short-term treatment of **active duodenal ulcer.** Most potients heol within four weeks.
2. **Maintenance therapy** for duodenal ulcer potients at reduced dosoge ofter heoling of acute ulcers.
3. The treotment of **pathological hypersecretory conditions** (eg, Zollinger-Ellison syndrome ond systemic mostocytosis).
4. Short-term treotment of **active, benign gastric ulcer.** Most potients heol within six weeks ond the usefulness of further treatment has nat been demonstroted.
5. Treotment of **gastroesophageal reflux disease (GERD).** Symptomotic relief cammonly occurs within one or two weeks ofter storting theropy and is mointoined thraughout a six-week course of therapy.

In active duodenal ulcer; octive, benign gastric ulcer; hypersecretory states; ond GERD, concomitant antocids should be given as needed for relief of poin.

CONTRAINDICATIONS: ZANTAC® is controindicoted for potients known to hove hypersensitivity to the drug.

PRECAUTIONS: Symptomotic response to ZANTAC® theropy does not preclude the presence of gostric molignoncy.

Since ZANTAC is excreted primorily by the kidney, dosage should be odjusted in patients with impoired renol function (see **DOSAGE AND ADMINISTRATION**). Coution should be observed in potients with hepatic dysfunction since ZANTAC is metobolized in the liver.

Folse-positive tests for urine protein with Multistix® moy occur during ZANTAC theropy, ond therefore testing with sulfosalicylic acid is recommended.

Although recommended doses of ZANTAC do not inhibit the oction of cytochrome P-450 enzymes in the liver, there hove been isoloted reports of drug interoctions which suggest that ZANTAC may affect the bioovailability of certain drugs by some mechanism as yet unidentified (eg, o pH-dependent effect on obsorption or o change in volume af distribution).

Lock of experience to dote precludes recommending ZANTAC for use in children or pregnant patients. Since ZANTAC is secreted in humon milk, coution should be exercised when odministered to o nursing mother.

ADVERSE REACTIONS: Headache, sometimes severe, seems to be reloted to ZANTAC® administration. Constipotion, diorrhea, nausea/vomiting, ond obdominol discomfort/poin hove been reported. There have been rare reports of molaise, dizziness, somnalence, insomnia, vertigo, tochycardia, bradycardia, premoture ventricular beots, ond orthrolgios. Rare cases of reversible mentol confusion, agitation, depressian, and hallucinations hove been reported, predominantly in severely ill elderly potients.

In normal volunteers, SGPT values were increased to at least twice the pretreotment levels in 6 of 12 subjects receiving 100 mg qid IV for seven doys, ond in 4 of 24 subjects receiving 50 mg qid for five doys. With orol administration there have been occosional reports of reversible hepotitis, hepotocellulor or hepotoconoliculor or mixed, with or without joundice.

There hove been rore reports of reversible leukopenio, gronulocytopenia, thrombocytopenio, ond poncytopenia.

Although controlled studies hove shown no ontiondrogenic activity, occasional coses of gynecomostio, impotence, ond loss of libido hove been reported in mole potients receiving ZANTAC, but the incidence did not differ from thot in the general populotion.

Incidents of rash, including rore coses suggestive of mild erythemo multiforme, and, rorely, olopecio, hove been reported, as well os rare coses of hypersensitivity reoctions (eg, bronchosposm, fever, rosh, eosinophilio) ond smoll increoses in serum creatinine.

OVERDOSAGE: Informotion concerning possible overdosoge and its treotment oppeors in the full prescribing informotion.

DOSAGE AND ADMINISTRATION: Active Duodenal Ulcer: The current recommended odult orol dosage is 150 mg twice doily. An alternate dosoge of 300 mg once doily ot bedtime con be used for potients in whom dosing convenience is important. The advontoges of one treotment regimen compored to the other in o particular patient populotion have yet to be demonstrated.

Maintenance Therapy: The current recommended odult orol dosoge is 150 mg ot bedtime.

Pathological Hypersecretory Conditions (such as Zollinger-Ellison Syndrome): The current recommended odult orol dosage is 150 mg twice o day. In some patients it moy be necessory to odminister ZANTAC 150-mg doses more frequently. Doses should be adjusted to individual potient needs, ond should continue os long os clinicolly indicoted. Doses up to 6 g/doy hove been employed in potients with severe diseose.

Benign Gastric Ulcer: The current recommended odult oral dosoge is 150 mg twice o doy.

GERD: The current recommended odult orol dosoge is 150 mg twice o doy.

Dosage Adjustment for Patients with Impaired Renal Function: On the basis of experience with o group of subjects with severely impoired renol function treated with ZANTAC, the recommended dosage in potients with o creotinine cleoronce less than 50 ml/min is 150 mg every 24 hours. Should the patient's condition require, the frequency of dosing moy be increosed to every 12 hours or even further with coution. Hemodiolysis reduces the level of circulating ronitidine. Ideolly, the dosoge schedule should be odjusted so that the timing of o scheduled dose coincides with the end of hemodialysis.

HOW SUPPLIED: ZANTAC® 300 Tablets (ranitidine hydrochloride equivolent to 300 mg of ranitidine) ore yellow, copsule-shoped tablets embossed with "ZANTAC 300" on one side and "Glaxo" on the other. They ore availoble in bottles of 30 (NDC 0173-0393-40) and unit dose pocks of 100 toblets (NDC 0173-0393-47).

ZANTAC® 150 Toblets (ranitidine hydrochloride equivolent to 150 mg of ronitidine) ore white tablets embossed with "ZANTAC 150" on one side ond "Gloxo" on the other. They are ovailable in bottles of 60 toblets (NDC 0173-0344-42) ond unit dose pocks of 100 toblets (NDC 0173-0344-47).

Store between 15° and 30°C (59° and 86°F) in a dry place. Protect from light. Replace cap securely after each opening.

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What you get back is immeasurable.

Just five hours a week. Just 5% of your income. It's not much to give, to the causes you really care about. But that small investment could change somebody's life. And it's hard to imagine a better return than that.

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Roster of Members for 1987-1988 by Component Societies

NOTE: We have endeavored to secure correct information in regard to every physician whose name is listed. Anyone finding an error should report it immediately to the North Carolina Medical Society, 222 N. Person Street, P.O. Box 27167, Raleigh, North Carolina 27611.

(See Page 24 for Key to Specialties)

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MED COLL OF VA 919 226-7386

ATES, HAROLD BASCOM U AC
1610 VAUGHN ROAD 54 54 59
BURLINGTON 27215
BOWMAN GRAY 919 227-2761

ECK, J. MONTGOMERY FP /U L/RT
820 FOREST OAKS LANE 44 52 53
MEBANE 27302
CASE WESTERN RES 919 563-2450

HATTI, MOHAMMAD AMJAD GS /TS AC
719 HERMITAGE RD. 61 71 86
BURLINGTON 27215
KING EDWARD COLL 919 226-5191

LAIR, GEORGE WALKER, JR. IM AC
711 HERMITAGE ROAD 47 47 53
BURLINGTON 27215
U OF PENN 919 226-9317

LAKE, JOHN PAUL P AC
723 EDITH STREET 60 60 68
BURLINGTON 27215
BOWMAN GRAY 919 227-9818

RAXTON, DORIS BLACKWELL PD /ADL AC
711 HERMITAGE ROAD 59 59 62
BURLINGTON 27215
U OF NC 919 229-5341

RENNAN, MICHAEL W. OPH AC
1214 VAUGHN RD. 78 78 87
BURLINGTON 27215
U TX-SAN ANTONIO 919 228-0254

ULLA, JEFFERSON DAVIS, II FP AC
780 WOODY DRIVE 60 60 64
GRAHAM 27253
U OF NC 919 228-1354

ULLARD, GEO. M., JR. FP AC
202 S. FIFTH ST. 83 84 86
MEBANE 27302
EAST CAROLINA U

YRNETT, JEFFREY WILLIAM GS /VS AC
1624 MEMORIAL DR. 79 80 86
BURLINGTON 27215
OHIO STATE U 919 229-6428

ARTER, ROBERT WILSON IM /CD AC
KERNODLE CLINIC 63 63 69
BURLINGTON 27215
BOWMAN GRAY 919 227-3621

HAPLIN, DON CLARENCE IM /CD AC
KERNODLE CLINIC, INC. 69 69 73
BURLINGTON 27215
U OF NC 919 227-3621

CHEEK, GEORGE WASHINGTON, JR. GS RT
317 ENGLEMAN 53 62 62
BURLINGTON 27215
U OF PENN 919 584-6551

CHOKSI, JANAK KANTILAL ON /IM AC
405 RUDD ST. B 72 74 85
BURLINGTON 27215
BARODA U 919 226-0276

CRAWFORD, LARRY CLARKE GS /TS AC
316 N. GRAHAM-HOPEDALE RD. 71 71 77
BURLINGTON 27215
BOWMAN GRAY 919 227-3621

CRISSMAN, CLINTON SAMUEL FP L
219 E. ELM STREET 42 42 47
GRAHAM 27253
TEMPLE U 919 226-2448

CRISSMAN, MARK ANDERS FP AC
219 E. ELM ST. 80 81 83
GRAHAM 27253
TEMPLE U 919 226-2448

CYKERT, SAMUEL IM AC
711 HERMITAGE ROAD 83 83 86
BURLINGTON 27215
INDIANA U 919 226-9317

DAVIS, JACK BEASON P AC
1946 MARTIN STREET 48 52 77
BURLINGTON 27215
HARVARD 919 228-0581

DIMEO, MICHAEL JOSEPH PUD /IM AC
1604 MEMORIAL DR. 73 74 84
BURLINGTON 27215
TUFTS U 919 226-7300

DUSZLAK, EDWARD J., JR. DR AC
3029 S. FAIRWAY DR. 78 79 83
BURLINGTON 27215
U OF MASS 919 228-1371

EASON, ERNEST BERNARD IM AC
1522 VAUGHN RD. 80 80 77
BURLINGTON 27215
U OF NC 919 226-1658

ELLINGTON, AMZI JEFFERSON, JR. GYN AC
291 N. GRAHAM-HOPEDALE RD. 52 53 56
BURLINGTON 27215
TEMPLE U 919 226-2423

ELLINGTON, ROBERT NORWOOD OBG AC
291 N. GRAHAM-HOPEDALE ROAD 57 57 63
BURLINGTON 27215
DUKE 919 226-2423

GADDY, GEORGE DOUGLAS OPH /OTO AC
1608 MEMORIAL DRIVE 49 53 53
BURLINGTON 27215
MED COLL OF GA 919 226-6321

GOLEY, ALEXANDER FAIRLEY IM AC
1509 VAUGHN ROAD 56 56 62
BURLINGTON 27215
U OF NC 919 228-6000

GROBEN, PAMELA ANNE PTH AC
327 GRAHAM-HOPEDALE RD. 77 78 85
BURLINGTON 27215
TULANE U 919 228-1371

GWYNN, THOMAS LEA GP AC
P. O. BOX 340 51 51 55
YANCEYVILLE 27379
BOWMAN GRAY 919 694-6311

HANCOCK, WILLIAM FRANKLIN, JR. PTH AC
1303 W. DAVIS ST. 68 68 73
BURLINGTON 27215
U OF NC 919 226-0196

HANZEL, SAM NS AC
PO BOX 2458 49 50 83
SAN RAFAEL, CA 94901
U OF ILLINOIS

HARMAN, JOHN SIMON U AC
1610 VAUGHN ROAD 61 68 68
BURLINGTON 27215
MED COLL OF VA 919 227-2761

HARPER, LARRY OLEN IM /END AC
KERNODLE CLINIC, INC. 67 67 73
BURLINGTON 27215
WEST VA U 919 227-3621

HAWKINS, JAMES HUBERT, JR. FP AC
316 1/2 S. MAIN STREET 78 79 82
GRAHAM 27253
U OF NC 919 228-9759

HAWKINS, JAMES HUBERT, SR. GP AC
P. O. BOX 476 46 46 49
GRAHAM 27253
JEFFERSON 919 227-7496

HAYES, JAMES WILLIAM ORS AC
KERNODLE CLINIC 55 55 63
BURLINGTON 27215
U OF NC 919 227-3621

HENDERSON, RICHARD ROBERT D AC
1522 VAUGHN ROAD 61 61 69
BURLINGTON 27215
INDIANA U 919 227-0496

HINES, EDWARD LLOYD ORS /HS AC
723 EDITH STREET 70 72 76
BURLINGTON 27215
GEO WASHINGTON U 919 227-4256

HODGES, JAMES THOMAS ORS AC
GRAHAM-HOPEDALE ROAD 63 63 64
BURLINGTON 27215
BOWMAN GRAY 919 227-3621

JOHNSON, DAVID SANDER PD AC
530 W. WEBB AVENUE 77 08 81
BURLINGTON 27215
U OF TENNESSEE 919 228-8316

JOHNSON, LESLIE DONALD DR AC
733-G COLONY APARTMENTS 69 69 81
BURLINGTON 27215
BOWMAN GRAY 919 227-8111

JOHNSTON, JAMES WILLIAM OBG AC
KERNODLE CLINIC 46 46 52
BURLINGTON 27215
MED COLL OF VA 919 227-3621

JONES, CLARA ISELEY GP L/RT
815 S. FIFTH ST. 45 55 56
MEBANE 27302
MED COLL OF VA 919 563-1080

JONES, DAVID CRAVEN FP AC
202 S. FIFTH STREET 79 82 83
MEBANE 27302
DUKE 919 563-9341

JUENGEL, PAUL H., III OTO /PSF AC
1206 VAUGHN RD. 81 82 87
BURLINGTON 27215
WAYNE STATE U

KERNODLE, CHARLES EDWARD, JR. GS L/RT
603 ISLEY PLACE, APT. D 42 44 49
BURLINGTON 27215
DUKE 919 226-4598

KERNODLE, DONALD REED OPH /OTO AC
KERNODLE CLINIC 53 53 59
BURLINGTON 27215
DUKE 919 227-3621

1. ALAMANCE-CASWELL COMPONENT SOCIETY (Continued)

KERNODLE, DWIGHT TALMADGE IM AC
KERNODLE CLINIC 47 47 54
BURLINGTON 27215
DUKE 919 227-3621

KERNODLE, GEORGE W., JR. RHU /IM AC
316 N. GRAHAM-HOPEDALE RD. 81 81 79
BURLINGTON 27215
U OF NC 919 227-3621

KERNODLE, GEORGE WALLACE PD AC
MEDICAL CTR PHARMACY BLDG 45 45 48
BURLINGTON 27215
DUKE 919 226-7608

KERNODLE, HAROLD BARKER, JR. ORS AC
316 N. GRAHAM-HOPEDALE RD. 69 69 77
BURLINGTON 27215
DUKE 919 227-3621

KERNODLE, JOHN ROBERT GYN L/RT
2465 EDGEWOOD AVE. 41 47 49
BURLINGTON 27215
DUKE 919 584-7075

KING, JOHN TALBERT PD /CD RT
404 EDINBURGH DR. 45 51 52
BURLINGTON 27215
MED COLL OF VA 919 226-5197

LEE, DAE HEE FP AC
2142 N. CHURCH STREET 70 70 79
BURLINGTON 27215
YONSEI U 919 227-7456

LINDLEY, JOSEPH J. GS AC
KERNODLE CLINIC 51 52 52
BURLINGTON 27215
MED COLL OF VA 919 227-3621

LITTLE, ROBERT WINFIELD PD AC
2505 S. MEBANE ST. 72 72 86
BURLINGTON 27215
U OF NC 919 227-9750

LONG, EUGENE MONROE, II OBG /OBS AC
KERNODLE CLINIC 63 63 71
BURLINGTON 27215
DUKE 919 226-2423

MANESS, PAUL FRANKLIN PD L
328 W. DAVIS STREET 39 46 49
BURLINGTON 27215
DUKE 919 228-8341

MANN, PHILIP ROGERS FP /IM AC
803 HERMITAGE ROAD 60 62 62
BURLINGTON 27215
U OF VIRGINIA 919 227-3643

MASOUD, JAVED CD /IM AC
723 EDITH STREET 68 68 83
BURLINGTON 27215
LIAQUAT MED COLL 919 229-6486

MATTHEWS, ROLAND D. FP AC
1610 VAUGHN ROAD 48 48 53
BURLINGTON 27215
U OF MARYLAND 919 228-8333

MCCASLIN, ROBERT IAN PD AC
530 W. WEBB AVE. 83 84 86
BURLINGTON 27215
UNIV. OF S.C. 919 228-8316

MCNIEL, JESSE NEAL P AC
1602 MEMORIAL DRIVE 60 60 74
BURLINGTON 27215
U OF ARKANSAS 919 227-1123

MCQUEEN, ROBERT BRUCE, JR. FP AC
780 WOODY DRIVE 59 60 61
GRAHAM 27253
MED COLL OF VA 919 228-1354

MEBANE, GILES YANCEY FP AC
202 S. FIFTH STREET 54 54 56
MEBANE 27302
DUKE 919 563-9341

MILLER, HOWARD EDWARD ORS AC
723 EDITH STREET 74 75 84
BURLINGTON 27215
SYRACUSE 919 227-4256

MORRIS, GEORGE THOMAS ARNOLD IM AC
711 HERMITAGE ROAD 59 59 66
BURLINGTON 27215
BOWMAN GRAY 919 226-9317

MORRIS, MARY LIDE R /NM AC
440 CEDARWOOD DRIVE 57 57 66
BURLINGTON 27215
BOWMAN GRAY 919 584-9872

MORRISEY, LEMONT FP AC
723 EDITH STREET 81 82 84
BURLINGTON 27215
BOWMAN GRAY 919 229-4791

MUNDY, DONALD ASHFORD AN AC
212 MEADOWOOD DRIVE 67 68 82
BURLINGTON 27215
U OF ALBERTA 919 584-5352

NICOLA, ANDRAOS NICOLA P AC
1946 MARTIN ST. 53 74 86
BURLINGTON 27215
AMER.U OF BEIRUT 919 228-0581

OSTROWSKI, EDWARD S. DR AC
831 WARWICK COURT 78 80 86
BURLINGTON 27215
U OF MASS 919 227-1147

PATTERSON, JAMES BENSON D AC
1638 MEMORIAL DR. 76 77 81
BURLINGTON 27215
U OF NC 919 226-8000

PEACE, ROBERT JOSEPH PTH AC
1447 YORK COURT 48 48 83
BURLINGTON 27215
TULANE U 919 584-5171

PHILLIPS, CHARLES WOODROW, JR. FP AC
108 E. MINNEOLA STREET 58 58 70
GIBSONVILLE 27249
U OF NC 919 449-4132

POWELL, JAMES BOBBITT PTH AC
1447 YORK COURT 64 64 74
BURLINGTON 27215
DUKE 919 584-5171

POWELL, THOMAS EDWARD, III PTH AC
P. O. BOX 2536 61 61 77
BURLINGTON 27215
DUKE 919 227-1235

PRUITT, RONALD ANTHONY ORS AC
316 N. GRAHAM-HOPEDALE RD. 59 61 64
BURLINGTON 27215
MED COLL OF VA 919 227-3621

RINKER, GEORGE ERNEST PTH /IM AC
817 COLONIAL DRIVE 65 65 71
BURLINGTON 27215
BOWMAN GRAY 919 584-5171

RIPPY, WILLIAM DENNIS FP AC
1610 VAUGHN ROAD 50 51 52
BURLINGTON 27215
DUKE 919 226-4471

ROSENOW, PHILIP JOHN OBG AC
1616 MEMORIAL DR. 70 79 86
BURLINGTON 27215
EMORY U 919 226-8817

ROSS, DONALD MACCONNELL GS L/RT
1610 VAUGHN ROAD 41 50 50
BURLINGTON 27215
TUFTS U 919 226-8416

RUTH, WAYNE KIMBERLY PUD /IM AC
1214 VAUGHN RD. STE. A 78 79 85
BURLINGTON 27215
DUKE 919 229-4441

RYAN, W. JAMES,II P AC
723 EDITH STREET 72 73 76
BURLINGTON 27215
LA STATE U 919 227-0126

SANKAR, SEEPLAPUTHUR G. GS /CDS AC
1610 VAUGHN RD. 74 81 82
BURLINGTON 27215
PRINCE OF WALES 919 226-3417

SAUNDERS, CHARLES L.,JR. GYN L/RT
523 WILDWOOD LN. 50 50 56
BURLINGTON 27215
JEFFERSON

SAWYER, TIMOTHY T. D AC
1522 VAUGHN RD. 80 83 86
BURLINGTON 27215
U OF OKLAHOMA 919 226-9393

SCOTT, CHARLES KIMREY PD /ADL A
530 W. WEBB AVENUE 66 66
BURLINGTON 27215
U OF NC 919 228-83

SCOTT, SAMUEL EDWIN FP A
ROUTE #2, BOX 159 63 63
BURLINGTON 27215
U OF NC 919 421-32

†SMEDBERG, GEORGE ANDREW GS A
517 CIRCLE DR. 46 49
DECEASED - 4-10-87
BURLINGTON 27215
U OF LOUISVILLE 919 228-78

SMITH, CHRISTOPHER EDMUND ORS A
723 EDITH ST. 76 84
BURLINGTON 27215
DUKE 919 229-42

SMITH, JARVIS WILTON GS A
316 GRAHAM-HOPEDALE RD. 80 80
BURLINGTON 27215
BOWMAN GRAY 919 227-36

STONEBURNER, RICHARD GRESHAM GS A
MEDICAL VILLAGE 42 53
BURLINGTON 27215
MED COLL OF VA 919 226-04

STRICKLAND, JAMES DONALD EM A
97B DENISE DRIVE 78 78
BURLINGTON 27215
TULANE U 919 228-07

SUTTON, EDWARD COLMERY GYN A
1616 MEMORIAL DRIVE 51 51
BURLINGTON 27215
U OF PENN 919 227-74

SYDNOR, CHARLES FORD OPH A
1214 VAUGHN ROAD 69 69
BURLINGTON 27215
U OF VIRGINIA 919 228-02

TATE, ALLEN DENNY, JR. FP A
1610 VAUGHN ROAD 48 48
BURLINGTON 27215
U OF MARYLAND 919 226-44

THOMAS, MATHAI SOMAN AN A
393 PORTSMOUTH CT. 77 77
BURLINGTON 27215
U OF NC 919 227-67

VAUGHT, WILLIAM WAYNE, JR OTO /HNS A
1206 VAUGHN ROAD 68 69
BURLINGTON 27215
U OF ILLINOIS 919 226-06

WADE, EUGENE HENRY PETER FP A
723 EDITH STREET 81 82
BURLINGTON 27215
HOWARD U 919 229-47

WALKER, JOHN BARRETT, JR. GP A
MEDICAL VILLAGE 44 48
BURLINGTON 27215
MED COLL OF VA 919 228-83

WALKER, JOHN BARRETT,III IM A
MEDICAL VILLAGE, SUITE K 75 75
BURLINGTON 27215
BOWMAN GRAY 919 226-73

WALL, JACK GARDNER DR A
ROUTE #4, BOX 682 68 68
GRAHAM 27253
U OF NC 919 226-01

WASHINGTON, JOHN LANGTRY OBG /FP A
316 GRAHAM-HOPEDALE RD. 75 75
BURLINGTON 27215
U OF ALABAMA 704 739-74

WATSON, ROBERT ANDREW FP /GER A
803 HERMITAGE ROAD 53 53
BURLINGTON 27215
U OF ROCHESTER 919 227-36

WILLCOCKSON, WILLIAM S. EM A
503 SHARON RD. 85 86
CHAPEL HILL 27514
U OF TEXAS 919 228-13

WILLIAMS, PAUL FORRESTER IM A
711 HERMITAGE ROAD 55 55
BURLINGTON 27215
U OF PENN 919 226-93

2. ALEXANDER COMPONENT SOCIETY

FFICERS—**President:** Russell W. Faulkenberry, M.D., 505 Third Ave., S.W., Taylorsville 28681 (704 632-9736)
Secretary: Walter N. Long, M.D., 505 Third Ave., S.W., Taylorsville 28681 (704 632-9736)

HOONG, HAN PYO GS AC 61 72 78
P. O. BOX 548
503 THIRD STREET, SW
TAYLORSVILLE 28681
KOREA U 704 632-7467

VENS, GEORGE HOWARD, JR. FP AC 47 48 50
P. O. BOX 308
TAYLORSVILLE 28681
BOWMAN GRAY 704 632-2270

LONG, WALTER NATHANIEL, JR. FP AC 58 58 63
505 THIRD AVENUE, SW
TAYLORSVILLE 28681
U OF NC 704 632-9736

MOFFETT, ALEXANDER STUART GS L/RT 32 32 43
70 W. LUCERNE CIR., APT. 409
ORLANDO, FL 32801
VANDERBILT U 305 841-1310

3. ALLEGHANY COMPONENT SOCIETY

OFFICERS—**President:** Jack R. Cahn, M.D., 616 Doctor St., Sparta 28675 (919 372-5606)

ASHLEY, GALE JACKSON FP AC 56 56 58
DOCTOR'S OFFICE BUILDING
SPARTA 28675
U OF NC 919 372-4644

CAHN, JACK RICHARD FP AC 72 75 79
ROUTE #1, BOX 439
SPARTA 28675
PENN STATE U 919 372-5606

HERAVI, CYRUS GS AC 62 62 72
302 HOSPITAL ROAD
SPARTA 28675
U OF TEHRAN 919 372-4343

LYON, MARY ELIZABETH FP AC 77 78 81
616 DOCTOR'S STREET
SPARTA 28675
BOWMAN GRAY 919 372-5606

4. ANSON COMPONENT SOCIETY

FFICERS—**President:** F. A. Burney, M.D., 402 Morven Rd., Wadesboro 28170 (704 694-2129)
Secretary: F. W. Deen, M.D., 508 Morven Rd., Wadesboro 28170

URNEY, FREDRIC ARLEN FP AC 62 62 64
402 MORVEN ROAD
WADESBORO 28170
U OF NC 704 694-2129

ASTELL, DONALD OVERTON GE AC 60 61 83
300 S. HAWTHORNE RD.
WINSTON-SALEM 27103
GEO WASHINGTON U 919 748-4612

AVIS, DANIEL WHITAKER FP AC 59 59 60
402 MORVEN ROAD
WADESBORO 28170
U OF NC 704 694-2129

AVIS, ROBERT LEE DR /NM AC 61 61 71
515 CAMDEN ROAD
WADESBORO 28170
BOWMAN GRAY 704 694-3597

ERTUGRUL, GULTEKIN GS /TS AC 54 54 72
508 MORVEN ROAD
WADESBORO 28170
ISTANBUL U 704 694-2136

HAHNER, MATTHEW GS AC 80 81 86
407 S. GREENE ST.
WADESBORO 28170
CENTRAL DEL ESTE 704 694-4193

MCKINNON, WILLIAM JAMES GS L/RT 40 46 46
407 S. GREENE ST.
PO BOX 309
WADESBORO 28170
U OF MARYLAND 704 694-2316

NIAZI-SAI, ABDOLHAKIM IM /HEM AC 66 74 78
208 HALL STREET
WADESBORO 28170
U OF TEHRAN 704 694-5159

SMETHIE, WILLIAM MASSIE, SR. GS L/RT 39 46 46
P. O. BOX 309
WADESBORO 28170
MED COLL OF VA 704 694-2316

SMITH, DAVID TILLERSON PUD L 22 31 31
GENERAL DELIVERY
PAWLEYS ISLAND, S. C. 29585
JOHNS HOPKINS

WILKINS, ROBERT HENRY NS AC 59 59 68
DUMC, DIV. OF NEUROSURGERY
DURHAM 27710
U OF PITTSBURGH 919 684-2549

5. ASHE COMPONENT SOCIETY

FFICERS—**President:** John H. Chapin, M.D., Rt. 2, Box 130, Lansing 28643 (919 982-2158)

CHAPIN, JOHN HARMON FP AC 52 52 54
ROUTE #2, BOX 130
LANSING 28643
U OF ALABAMA 919 982-2158

KURTZ, ELAM STOLTZFUS FP AC 55 56 56
P. O. BOX 227
LANSING 28643
CASE WESTERN RES 919 384-3326

MILLER, EDWARD JAMES GP AC 62 62 66
P. O. BOX 27
JEFFERSON 28640
U OF NC 919 246-7433

6. AVERY COMPONENT SOCIETY

FFICERS—**President:** Neal L. Shealy, M.D., PO Box 380, Crossnore 28616 (704 733-0085)
Secretary: Daniel Vinson, M.D., PO Box 837, Banner Elk 28604 (704 898-5026)

CHAPMAN, ROBERT AMASA FP AC 55 65 66
P. O. BOX 728
BANNER ELK 28604
OHIO STATE U 704 898-4828

INK, EMMA SLOOP FP L 36 38 38
BOX 160
CROSSNORE 28616
VANDERBILT U 704 733-4367

ITTLEJOHN, MARK HAYS R /NM AC 61 62 81
CANNON MEMORIAL HOSPITAL
BANNER ELK 28604
NORTHWESTERN U 704 898-5823

MORROW, DOROTHY JACKSON PD /A AC 40 44 79
P. O. BOX 95
BANNER ELK 28604
TUFTS U 704 898-9440

MORROW, RUFUS CLEGG OTO /A AC 38 39 79
P. O. BOX 95
BANNER ELK 28604
DUKE 704 898-9440

RAMBO, V. BIRCH GS H 52 53 58
341 PONCE DE LEON NE
ATLANTA, GA 30365
U OF PENN

SMITH, EUSTACE HENRY FP AC 50 51 52
BOX 190
CROSSNORE 28616
MED COLL OF VA 704 733-9297

SMITH, ROBERT CLEMENT IM AC 53 59 59
BOX 248
BANNER ELK 28604
U OF PITTSBURGH 704 898-5588

TATE, WILLIAM CUMMINGS, II GS AC 72 72 77
P. O. BOX 68
BANNER ELK 28604
U OF NC 704 898-4221

VANCE, SHELBY WILLIAM GP L 33 33 47
BOX 70
PINEOLA 28662
EMORY U 704 733-2788

VINSON, DANIEL CASTILE FP AC 74 74 78
P.O. BOX 837
BANNER ELK 28604
U OF NC 704 898-5026

7. BEAUFORT-HYDE-MARTIN-WASHINGTON-TYRRELL COMPONENT SOCIETY

OFFICERS—**President:** Philip S. Herbert, Jr., M.D., 1308 Highland Dr., Washington 27889 (919 946-8061)
Secretary: Frederick D. Austin, III, M.D., 615 E. 12th St., Washington 27889 (919 946-2101)

AGEE, ROBERT NELSON GS AC
66 66 86
302 S. MCCASKEY RD.
WILLIAMSTON 27892
OHIO STATE U 919 792-1055

ALLIGOOD, TOBY RAY D /IM AC
76 76 81
1110 HIGHLAND DRIVE
WASHINGTON 27889
BOWMAN GRAY 919 946-4176

AUSTIN, FREDERICK DA COSTA,III IM /ID AC
67 67 86
615 E. 12TH STREET
WASHINGTON 27889
U OF NC 919 946-2101

BALTIMORE, CHAS. LITTLEBURG,JR OPH AC
69 69 77
211 N. MARKET STREET
WASHINGTON 27889
U OF VIRGINIA 919 946-2171

BOYETTE, CHARLES OTIS FP AC
61 61 65
P. O. BOX 310
BELHAVEN 27810
U OF NC 919 943-2651

BRANTLEY, JULIAN CHISOLM,III OBG AC
75 77 79
701 SHOREWOOD DRIVE
WASHINGTON 27889
U OF NC 919 946-6544

CHUNG, WAN SOO GP AC
71 76 78
320 MCCASKEY ROAD
WILLIAMSTON 27892
KOREA U 919 792-1071

COLEMAN, JAMES BARR GS AC
73 73 79
604 W. MAIN STREET
WASHINGTON 27889
U OF NC 919 946-0181

COLEMAN, PHILIP DIVOLL GS /TS AC
68 68 83
625 E. 12TH ST.
WASHINGTON 27889
U OF NC 919 946-0181

CONSTIEN, DANIEL JOHN FP AC
81 83 84
AURORA MEDICAL CENTER
P. O. BOX 40
AURORA 27806
U OF MISSOURI 919 322-4021

COOK, RUSSEL CLIFFORD PD AC
76 76 80
608 E. 12TH STREET
WASHINGTON 27889
BOWMAN GRAY 919 946-4134

DESROCHERS, DAVID ALAN R AC
76 77 84
608 E. 12TH STREET
WASHINGTON 27889
CORNELL U 919 946-2137

DOVER, CARL THOMAS, JR. PD AC
77 77 87
307 S. MCCASKEY RD.
WILLIAMSTON 27892
BOWMAN GRAY 919 792-8101

FIELDS, THOMAS DUDLEY U AC
78 79 86
604 E. 12TH ST.
WASHINGTON 27889
U OF TENNESSEE 919 946-0136

GALUSZKA, ALBIN ADOLPH U AC
42 42 71
604 E. 12TH STREET
WASHINGTON 27889
TUFTS U 919 946-0136

HADLEY, ROBERT PURCELL PTH AC
61 67 68
P. O. BOX 1328
WASHINGTON 27889
U OF VIRGINIA 919 946-9074

HERBERT, PHILIP SIDNEY, JR. P AC
51 53 77
1308 HIGHLAND DRIVE
WASHINGTON 27889
CORNELL U 919 946-8061

HILL, EDWARD FELDIN FP AC
73 74 85
501 W. 15TH ST.
WASHINGTON 27889
WASHINGTON U 919 975-2667

HINDSLEY, J. PACK, JR. U AC
70 70 81
604 E. 12TH STREET
WASHINGTON 27889
U OF VIRGINIA 919 946-0136

JENKINS, JOSEPH MCKENDRIE U AC
74 74 79
604 E. 12TH STREET
WASHINGTON 27889
U OF NC 919 946-0136

JEON, MYUNG KIL GP AC
70 70 76
MEDICAL ARTS CENTER
PLYMOUTH 27962
SEOUL NATL U 919 793-5073

JOHNSON, DONALD CARL OPH AC
58 58 64
P. O. BOX 699
WASHINGTON 27889
BOWMAN GRAY 919 946-3111

JONES, ALBERT MCCRAY OBG AC
51 60 61
ROUTE #5, BOX 14
WASHINGTON 27889
U OF VIRGINIA 919 946-6544

KIM, KYUNG-HWAE OBG AC
60 60 77
P. O. BOX 190
PLYMOUTH 27962
YONSEI U 919 793-1194

LARKIN, ERNEST WADDILL, JR. OPH AC
45 45 51
211 N. MARKET STREET
WASHINGTON 27889
MED COLL OF VA 919 946-2171

LASSITER, TALLY EDWARD FP AC
54 54 57
619 E. 12TH STREET
WASHINGTON 27889
HARVARD 919 946-1193

LIVERMAN, HENRY JOSEPH FP AC
50 50 52
P. O. BOX 218, LAZY LANE
ENGELHARD 27824
U OF LOUISVILLE 919 925-3271

MILLER, GEORGE JOHN, JR. ORS AC
67 69 79
1207 HIGHLAND DRIVE
WASHINGTON 27889
U OF ROCHESTER 919 946-6513

MOORE, PAUL MILTON, JR. FP AC
59 59 63
619 E. 12TH STREET
WASHINGTON 27889
U OF NC 919 946-1146

NG, VICTOR WANG TA FP AC
59 60 62
PO BOX 999
ROBERSONVILLE 27871
BOWMAN GRAY 919 795-3018

NICHOLSON, JAMES EVANS, III FP AC
78 79 84
304 MCCASKEY ROAD
WILLIAMSTON 27892
U OF NC 919 792-8193

NICHOLSON, THOMAS WESTRAY CD /IM AC
70 70 77
615 E. 12TH STREET
WASHINGTON 27889
U OF NC 919 946-2101

OAK, CHANG YOON IM AC
70 70 84
HIGHWAY 64 EAST
PO BOX 987
PLYMOUTH 27962
YONSEI U 919 793-9051

PAPINEAU, ALBAN FP L
31 33 34
PO BOX 686
PLYMOUTH 27962
U OF PENN 919 793-4155

PARTRICK, CORNELIUS THEODORE IM /CD AC
54 54 61
615 E. 12TH STREET
WASHINGTON 27889
U OF NC 919 946-2101

PUGH, RAEFORD THEODORE FP AC
57 57 61
619 E. 12TH STREET
WASHINGTON 27889
U OF NC 919 946-6486

RHODES, JAMES SLADE, JR. GP L/
41 41
407 N. SMITHWICK ST.
WILLIAMSTON 27892
MED COLL OF VA 919 792-20

RILEY, PATRICK MICHAEL AN A
79 81
504 ALDERSON
WASHINGTON 27889
MICHIGAN ST U 919 946-58

ROBBINS, PHILIP SLOAN P A
54 55
TIDELAND MENTAL HLTH CTR.
WASHINGTON 27889
CORNELL U 919 946-80

RODMAN, CLARK IM L/
43 43
615 E. 12TH STREET
WASHINGTON 27889
JEFFERSON 919 946-21

SANDY, ROBERT EUGENE R A
53 59
608 E. 12TH STREET
WASHINGTON 27889
U OF PITTSBURGH 919 946-21

SHELDON, FRANK CHADWICK EM /GS A
62 62
BEAUFORT COUNTY HOSPITAL
EAST 12TH STREET
WASHINGTON 27889
GEO WASHINGTON U 919 946-19

SILVERTHORNE, RAY GUILFORD OBG L/
51 51
RT. #2, BOX 35
WASHINGTON 27889
BOWMAN GRAY 919 946-51

SPEROS, THOMAS LEE FP A
76 76
501 WEST 15TH STREET
WASHINGTON 27889
U OF NC 919 975-26

STALLINGS, THOMAS FRANKLIN PD A
54 54
608 E. 12TH STREET
WASHINGTON 27889
HARVARD 919 946-41

STANTON, ALLIE MCLEOD GS L/
43 51
DRAWER 925
PLYMOUTH 27962
U OF TENNESSEE 919 793-41

STEPHENSON, HENRY LOUIS, JR. IM /CD A
55 55
615 E. 12TH STREET
WASHINGTON 27889
U OF NC 919 946-21

TAYLOE, DAVID THOMAS PD A
50 50
608 E. 12TH STREET
WASHINGTON 27889
U OF PENN 919 946-41

TAYLOE, JOSHUA OBG A
61 61
614 E. 12TH STREET
WASHINGTON 27889
U OF NC 919 946-65

TAYLOR, MARSHALL CARNEY DR A
70 70
608 E. 12TH STREET
WASHINGTON 27889
U OF VIRGINIA 919 946-21

UM, KI-BONG GP A
71 76
P. O. BOX 625
ROBERSONVILLE 27871
KOREA U 919 795-41

WALLACE, KELLEY, JR. PS /GS A
63 63
330 N. MARKET ST.
CHOCOWINITY 27817
U OF NC 919 946-22

WATERS, ZACK JAMES, JR. GS A
61 61
604 E. 12TH STREET
WASHINGTON 27889
U OF MARYLAND 919 946-90

WRIGHT, JAMES THURMAN GP
43 43
108 FRONT STREET
BELHAVEN 27810
JEFFERSON 919 943-23

8. BERTIE-GATES-HERTFORD COMPONENT SOCIETY

FICERS—**President:** Joselito Almario, M.D., 500 N. Academy St., Ahoskie 27910 (919 332-6444)
Secretary: Robert C. Kahn, M.D., 416 Circle Dr., Ahoskie 27910 (919 332-2244)

MARIO, JOSELITO U AC 67 67 82
00 N. ACADEMY ST.
HOSKIE 27910
OF SANTO TOMAS 919 332-6444

STON, MICHAEL CURTIS FP AC 78 79 82
05 HOLLY HILL RD.
URFREESBORO 27855
OF NC 919 398-5167

ADSHER, ARTHUR BROWN GS L 41 51 51
ERTIE COUNTY MEM. HOSPITAL
O BOX 158
/INDSOR 27983
CGILL U 919 794-4539

AYTON, MELVIN LOUIS IM /FP AC 73 73 76
O BOX 788
HOSKIE 27910
OF NC 919 332-2993

RDEN, JAMES LEE, JR. FP AC 47 48 50
CADEMY ST., MED. ARTS BLDG.
HOSKIE 27910
OWMAN GRAY 919 332-3548

UGHTRIDGE, TRUMAN GIFFIN R AC 55 56 81
06 WOODLAWN DRIVE
HOSKIE 27910
EMPLE U 919 332-8121

VIS, ROBERT ALDEN GS AC 81 86 79
ERTIE MEMORIAL HOSPITAL
/INDSOR 27983
OWMAN GRAY 919 794-4865

GLES, ARCHIE YELVERTON IM L 39 46 47
IEDICAL ARTS CENTER
HOSKIE 27910
UKE 919 332-4155

OOD, ROY DEVONNE FP AC 65 66 73
OX #7, SPRING BRANCH ROAD
IURFREESBORO 27855
OWARD U 919 398-3323

ANK, JOE LEE, JR. R AC 43 55 55
15 S. PEMBROKE AVENUE
HOSKIE 27910
OLUMBIA U 919 332-2390

FREI, TIMOTHY EDWARD IM AC 79 80 83
AHOSKIE MEDICAL ASSOC., INC.
PO BOX 340
AHOSKIE 27910
JEFFERSON 919 332-4155

GELBURD, GREGORY STUART FP AC 82 83 00
401 STERLING ST.
WINDSOR 27983
PHIL OSTEO MC 919 794-3043

GELOT, RAGHUVIR BAXIRAM OTO AC 67 71 78
RT. #1, BOX 6-B
AHOSKIE 27910
BARODA U 919 332-5917

JENKINS, STANLEIGH EDWARD, JR. FP AC 66 66 70
501 HAYES STREET
AHOSKIE 27910
U OF NC 919 357-1226

JONES, COLIN DOUGLAS FP AC 73 73 75
ACADEMY STREET
AHOSKIE 27910
U OF NC 919 332-6138

KAHN, ROBERT CHARLES GS AC 77 79 82
416 CIRCLE DRIVE
AHOSKIE 27910
U OF PENN 919 332-2244

KING, DANA EDWIN FP AC 81 82 84
PO BOX 297
GATESVILLE 27938
U OF KENTUCKY 919 357-1226

LANG, DELANO ROOSEVELT, JR. FP AC 57 57 74
ROANOKE CHOWAN HOSPITAL
AHOSKIE 27910
HOWARD U 919 332-3560

MCLEAN, AUGUSTUS ALEXANDER, JR GP L/RT 45 45 48
P. O. BOX 98
MURFREESBORO 27855
MED COLL OF VA 919 398-3789

PIERCE, CHARLES GRAINGER PD /PDA AC 75 77 73
201 S. COLONY AVENUE
AHOSKIE 27910
U OF NC 919 332-5041

POMERANS, MARK EM /FP AC 64 65 81
ROANOKE-CHOWAN HOSPITAL
AHOSKIE 27910
U OF URUGUAY 919 332-8121

PRINCE, JAMES WILLIAM P AC 81 81 85
RT. #1, BOX 15Y
HARRELLSVILLE 27942
EMORY U 919 332-4137

QURESHI, AFTAB AHMAD GS /OBG AC 62 62 81
312 S. ACADEMY STREET
AHOSKIE 27910
KING EDWARD COLL 919 332-2244

QURESHI, FAIQA AFTAB PD AC 73 78 83
421 S. PEACHTREE STREET
AHOSKIE 27910
KING EDWARD COLL 919 332-3403

REVELLE, BONNIE CAULKINS PD AC 81 83 85
421 S. PEACHTREE ST.
AHOSKIE 27910
EAST CAROLINA U 919 332-3403

SAUNDERS, JAY FRED FP AC 54 54 64
BOX 309
AULANDER 27805
U OF NC 919 345-3791

SAWYER, CHARLES JUDSON, III FP AC 63 63 67
MEDICAL ARTS CTR., ACADEMY ST.
AHOSKIE 27910
U OF NC 919 332-3548

TAYLOR, JULIAN RALEIGH FP AC 69 69 74
MEDICAL ARTS CENTER
AHOSKIE 27910
BOWMAN GRAY 919 332-3548

WADSWORTH, GEORGE HENRY GS L/RT 36 36 48
P. O. BOX 27
AHOSKIE 27910
U OF CINCINNATI 919 332-2215

WEAVER, JOSEPH DUDLEY FP L/RT 38 39 66
111 N. MAPLE STREET
AHOSKIE 27910
HOWARD U 919 332-2196

9. BLADEN COMPONENT SOCIETY

FICERS—**President:** Otha A. Barnhill, M.D., Box 488, Elizabethtown 28337
Secretary: Robert L. Summerlin, M.D., Box 10, Dublin Clinic, Dublin 28332 (919 862-3528)

NNETT, ERNEST CLAXTON GP L 26 26 27
. O. BOX 667
LIZABETHTOWN 28337
IED COLL OF VA 919 866-4319

ADLEY, BETTY BRUTON FP AC 79 80 85
. O. BOX 998
LADENBORO 28320
UKE 919 863-3138

EED, DON WENDELL GP AC 74 76 77
IOSPITAL DRIVE, BOX 1477
LIZABETHTOWN 28337
IED U OF SC 919 862-8184

ENOJADO, SILVERIO CASTRO,JR. FP AC 61 61 77
P. O. BOX 308
CLARKTON 28433
U OF SANTO TOMAS 919 647-4311

GLENN, CHANNING GP L/RT 33 33 39
P. O. BOX 278
ELIZABETHTOWN 28337
MED COLL OF VA 919 862-3721

LOPES, CLEMENCEAU DE JESUS GS /GP AC 61 61 74
P. O. BOX 1358
ELIZABETHTOWN 28337
U OF PARANA 919 862-3112

PHILLIPS, BRUCE ALTON, JR. IM /GE AC 67 67 74
P. O. BOX 86
ELIZABETHTOWN 28337
U OF NC 919 862-3212

SHIEH, RICHARD CHEN HAI R AC 54 71 81
HOSPITAL DR.
PO BOX 398
ELIZABETHTOWN 28337
NATL DEF-TAIPEI 919 862-4043

SUMMERLIN, ROBERT LEE FP AC 55 55 58
DUBLIN MEDICAL CLINIC
PO BOX 10
DUBLIN 28332
U OF NC 919 862-3528

10. BRUNSWICK COMPONENT SOCIETY

FFICERS—**President:** Charles J. Savarese, Jr., M.D., PO Box 1948, Shallotte 28459 (919 754-8105)
Secretary: Peter D. Almirall, M.D., 307 Yaupon Beach Dr., Southport 28461 (919 278-3316)

MIRALL, PETER DAVID FP /OM AC 78 79 83
OAK ISLAND MEDICAL CENTER
307 YAUPON DR.
/AUPON BEACH 28461
J OF TORONTO 919 278-3316

ZATO, JOHN ANTHONY ORS AC 70 71 77
12 N. HOWE STREET
SOUTHPORT 28461
IEFFERSON 919 457-4789

CANDELA, STEPHEN JOSEPH ORS AC 77 79 85
PO BOX 260
SUPPLY 28462
AUTONOMA U 919 754-4355

CORBETT, JOHN RICHARD R AC 57 57 66
924 HOWE ST.
SOUTHPORT 28461
BOWMAN GRAY 919 457-5271

FORD, BLANCHARD FRED, JR. FP L 38 46 46
P. O. BOX 336
SHALLOTTE 28459
MED U OF SC 919 754-6474

FORSTNER, JAMES ROBERT FP AC 73 74 77
250 E. 11TH ST.
SOUTHPORT 28461
U OF NC 919 278-3981

10. BRUNSWICK COMPONENT SOCIETY (Continued)

GRIMMETT, MATTHEW HILL R /PD L/RT
829 SHORELINE DRIVE, WEST 43 49 50
SUNSET BEACH 28459
DUKE 919 579-2091

HASSLER, ROBERT EMIEL OBG AC
DOCTORS COMPLEX, #4 60 61 85
SUPPLY 28462
NEW YORK MED COL 919 754-9166

HORNSTEIN, NORMAN MARK FP L
P. O. BOX 10968 41 41 49
SOUTHPORT 28461
LONDON U 919 457-6744

HSU, NORA HUANG OBG AC
ROUTE #1, BOX 8-B 52 52 77
SUPPLY 28462
PEKING U 919 754-8113

KHAN, MUSHTAQ HUSSAIN GS /GP AC
ROUTE #3, BOX 23 67 73 78
SUPPLY 28462
KAKATIYA MED COL 919 754-8115

LANGSTON, BERNARD LEROY, III GP AC
P. O. BOX 1934 72 73 85
SHALLOTTE 28459
MED U OF SC 919 754-8731

MULHOLLAND, JAMES VINCENT PD /PD AC
PO BOX 1208 57 58 79
SHALLOTTE 28459
DOWNSTATE ME CTR 919 754-8117

SAVARESE, CHARLES JOSEPH, JR. FP /CD A
P. O. BOX 1948 50 51 7
SHALLOTTE 28459
GEO WASHINGTON U 919 754-81

WALLIN, GENE AMBROSE FP A
1004 N. HOWE ST. 65 65 7
SOUTHPORT 28461
U OF TENNESSEE 919 457-62

ZUKOSKI, ROBERT MICHAEL GS /GYN A
926 HOWE STREET 77 82 8
SOUTHPORT 28461
JEFFERSON 919 457-52

11. BUNCOMBE COMPONENT SOCIETY

OFFICERS—**President:** Roger A. James, M.D., 946 Tunnel Rd., Asheville 28805 (704 298-7981)
Secretary: William Huffstutter, M.D., 50 Doctor's Dr., Ste. 210, Asheville 28801(704 252-8983)
Executive Secretary: Susan Young, P.O. Box 15053, 7 Beechwood Rd., Asheville 28813 (704 252-7038)

ARENDALE, STEPHEN SYDNES DR /NM AC
STE. 301, 445 BILTMORE CENTER 67 67 77
ASHEVILLE 28801
BAYLOR 704 254-2371

ARIAIL, JERRY NOLAN D AC
390 S. FRENCH BROAD AVE. 71 72 77
ASHEVILLE 28801
MED COLL OF GA 704 252-3576

ARMSTRONG, BRUCE GRIFFEY U AC
1 DOCTOR'S PARK 75 75 83
ASHEVILLE 28801
BOWMAN GRAY

ATWATER, JOHN SPENCER, JR. A /PD AC
390 S. FRENCH BROAD AVE. 70 71 77
ASHEVILLE 28801
MED COLL OF GA 704 254-5366

BAGLEY, CARTER SNOW OTO /HNS AC
131 MCDOWELL STREET 59 59 69
ASHEVILLE 28801
U OF VIRGINIA 704 254-3517

BAILEY, JOHN BENNETT PD AC
131 MCDOWELL STREET 75 75 81
ASHEVILLE 28801
U OF TEXAS 704 254-4337

BALDWIN, MARIE P /PN L/RT
PO BOX 173 29 29 51
DUE WEST, SC 29639
MED U OF SC

BARBER, JOHN FRANCIS GYN L/RT
157 WINDSOR RD. 40 41 48
ASHEVILLE 28804
U OF PENN 704 253-4821

BARNHARDT, LUTHER ERNEST, JR. R /NM AC
900 MEDICAL CT., STE. A 58 58 64
100 RANKIN DR.
MARION 28752
DUKE 704 652-4630

BATE, DAVID SOULE, JR. FP AC
1812 HENDERSONVILLE RD. 79 80 85
ASHEVILLE 28806
GEO WASHINGTON U 704 684-0011

BEARDSLEY, THOMAS LEWIS OPH AC
3-C DOCTOR'S PARK 77 80 77
ASHEVILLE 28801
DUKE 704 253-9821

BELL, CAROL ROLAND AN AC
202 DOCTOR'S BUILDING 60 60 70
ASHEVILLE 28801
MED U OF SC 704 254-1969

BERKEY, WILLIAM SALDERUS, JR FP AC
PO BOX 696 73 75 75
SKYLAND 28776
LOMA LINDA U 704 684-7801

BERNER, THOMAS EM AC
23 PARK ROAD 68 68 75
ASHEVILLE 28803
JOHNS HOPKINS 704 274-3592

BIGGERS, DAVID CARL PTH AC
MEMORIAL MISSION HOSPITAL 58 58 78
ASHEVILLE 28801
U OF NC 704 255-4270

BILBREY, GEORGE MARVIN, JR CDS /TS AC
257 MCDOWELL STREET 62 62 72
ASHEVILLE 28803
U OF ALABAMA 704 258-1121

BISSELL, LEWIS F. IM AC
12 ROUND OAK ROAD 49 49 86
ASHEVILLE 28804
U OF ARKANSAS 704 254-0663

BITTER, KARL FFOLLIOTT U AC
1 DOCTOR'S PARK 63 63 71
ASHEVILLE 28801
U OF NC 704 253-5314

BOERNER, ROBERT MARTIN ID /PUD AC
520 BILTMORE AVENUE 61 61 72
ASHEVILLE 28801
U OF NC 704 254-5932

BOND, THOMAS MADISON GE /IM AC
49 MCDOWELL ST. 80 84 86
ASHEVILLE 28801
U OF NC 704 258-3870

BONNER, JACK WILBUR,III P AC
BOX 1101, HIGHLAND HOSPITAL 65 65 71
ASHEVILLE 28802
U OF TEXAS-SW 704 254-3201

BOWERS, WILLIAM HAMPTON HS /ORS AC
409-E PARKWAY DR. 66 66 74
GREENSBORO 27401
U OF NC 919 378-0811

BOYD, ELLEN PD AC
131 MCDOWELL STREET 75 77 79
ASHEVILLE 28801
MED U OF SC 704 254-4337

BRANNAN, WILLIAM CHESTER OBG AC
143 ASHELAND AVENUE 68 69 81
ASHEVILLE 28801
LOMA LINDA U 704 258-9191

BRAZIL, WILBURN OSCAR, JR. U AC
100 VICTORIA ROAD 61 66 67
ASHEVILLE 28801
LA STATE U 704 254-8883

BROWN, KERMIT ENGLISH OBG L/RT
398 CHUNNS COVE ROAD 27 27 30
ASHEVILLE 28805
JEFFERSON 704 252-5117

BRYAN, WILLIAM ALEXANDER, III PD AC
ASTON PARK CENTER 68 68 75
53 S. FRENCH BROAD AVENUE
ASHEVILLE 28801
LOMA LINDA U 704 258-0969

BURKHARDT, NATHAN LESLIE, JR. ORS AC
129 MCDOWELL ST. 59 66 66
ASHEVILLE 28801
U OF TENNESSEE 704 258-8800

BURNS, MARGARET VIRGINIA P L
146 VICTORIA ROAD 37 48 49
ASHEVILLE 28801
DUKE 704 254-4616

BURT, TERRENCE WILLIAM EM AC
405 WINDSWEPT DR. #703 79 80 85
ASHEVILLE 28801
LA STATE U 704 255-4032

BURTON, HARRY G., III CDS /TS A
257 MCDOWELL ST. 74 71 8
ASHEVILLE 28803
U OF LOUISVILLE 704 258-11

BYRON, ROBERT SILL P A
675 BILTMORE AVENUE 64 64 6
ASHEVILLE 28803
U OF CINCINNATI 704 254-53

CALLAHAN, RICHARD DALE ON /HEM A
1 DOCTOR'S DR. 77 78 8
ASHEVILLE 28801
PENN STATE U 704 254-82

CALLISON, WILLIAM JOSEPH ORS A
STE. 101, 445 BILTMORE CENTER 53 60 6
ASHEVILLE 28801
VANDERBILT U 704 254-72

CAMBLOS, JOSHUA F. B. GS /GYN L/R
17 FOREST ROAD 43 48 4
ASHEVILLE 28803
U OF VIRGINIA 704 274-27

CAMPBELL, ALLEN BARRY OBG A
93 VICTORIA ROAD 61 68 6
ASHEVILLE 28801
COLUMBIA U 704 253-48

CAPPIELLO, DAVID LAWRENCE ORS A
129 MCDOWELL STREET 64 64 7
ASHEVILLE 28801
CORNELL U 704 258-88

CHAPMAN, JESSE PUGH, JR. TS /GS L/R
520 BILTMORE AVENUE 43 48 5
ASHEVILLE 28801
U OF PENN 704 252-73

CHILDERS, TERRY CELY PD A
131 MCDOWELL ST. 80 82 8
ASHEVILLE 28801
U OF VIRGINIA 704 254-98

CHIPLEY, PATRICK LINCOLN GP A
P. O. BOX 399 56 56 5
ENKA 28728
BOWMAN GRAY 704 667-25

CLAPP, HUBERT LEE GP
BOX 365 37 38 3
SWANNANOA 28778
MED COLL OF GA 704 686-33

CLARK, KENNETH JAMES, JR. GE /IM A
49 MCDOWELL ST. 71 72 7
ASHEVILLE 28801
ST U OF NY-BUFF 704 258-38

CLARK, TERRENCE PETER CHP /P A
445 BILTMORE AVE., STE. 304 73 73 7
ASHEVILLE 28801
BAYLOR 704 252-14

CLAXTON, CALVIN PORTER, JR. CDS /TS A
257 MCDOWELL STREET 61 61 7
ASHEVILLE 28803
U OF VIRGINIA 704 258-11

†CODNERE, JOHN THOMAS U L/R
119 CHURCH STREET 38 46 4
BLACK MOUNTAIN 28711
U OF TORONTO 704 669-87

11. BUNCOMBE COMPONENT SOCIETY (Continued)

)LE, WARREN HENRY GS RT
3 W. KENSINGTON ROAD 20 67 68
ASHEVILLE 28804
WASHINGTON U 704 254-4475

)OK, JAMES HOSMER D AC
281 MCDOWELL STREET 63 64 73
ASHEVILLE 28803
J OF IOWA 704 252-5679

)RCORAN, EDWIN EMMONS IM /GE L/RT
59 MCDOWELL STREET 37 37 48
ASHEVILLE 28801
MED U OF SC 704 258-3870

)STENBADER, WM. B., JR. OTO /HNS AC
31 MCDOWELL STREET 64 64 71
ASHEVILLE 28801
J OF VIRGINIA 704 254-3517

AIG, ROBERT LAWRENCE P L/RT
6 COLONIAL PLACE 35 35 39
ASHEVILLE 28804
OHNS HOPKINS

EWS, HARRY DENNISTON NEP /IM AC
0 MCDOWELL STREET 64 64 72
ASHEVILLE 28801
OHNS HOPKINS 704 258-8545

IGLER, NORRIS WOLF, JR. R AC
P. O. BOX 2959 76 76 81
ASHEVILLE 28801
)UKE 704 254-4617

OSBY, EDWARD BROWN ORS /HS AC
PO BOX 1980 68 69 75
ASHEVILLE 28802
J OF ALABAMA 704 258-0847

OW, SAMUEL LESLIE IM /CD L/RT
18 DOCTOR'S BLDG. 25 26 27
ASHEVILLE 28801
EMORY U 704 252-5633

MMINGS, CHARLES EMMETT D AC
81 MCDOWELL STREET 58 62 63
ASHEVILLE 28803
A STATE U 704 252-5676

NNINGHAM, MARK ALAN AN AC
02 DOCTOR'S BLDG. 70 72 78
ASHEVILLE 28801
'ANDERBILT U 704 254-1969

VIS, PHILIP COLEMAN OBG AC
3 VICTORIA ROAD 64 64 72
ASHEVILLE 28801
MED COLL OF VA 704 253-4821

ALY, DARILYN HEDDEN ID AC
45 BILTMORE CTR., STE. 404 79 79 85
ASHEVILLE 28801
)UKE 704 258-9635

AN, JOHN NEWELL IM AC
47 ASHLAND AVENUE 74 75 79
ASHEVILLE 28801
EMORY U 704 258-1188

ERING, TIMOTHY BRADFORD GE /IM AC
0 CHOCTAW STREET 72 74 78
ASHEVILLE 28801
IEW YORK MED COL 704 254-0881

DD, PATRICIA GS /GYN L/RT
25 VANDERBILT RD. 44 54 55
ASHEVILLE 28803
OF MARYLAND 704 254-3587

LAN, DANIEL LYNN IM /CD AC
BAIRD MOUNTAIN ROAD WEST 55 55 78
ASHEVILLE 28804
'ANDERBILT U 704 658-2677

MBY, WILLIAM ROGER PUD /IM AC
0 CHOCTAW STREET 72 73 80
SHEVILLE 28801
IED COLL OF VA 704 255-7733

NAHUE, DONALD C. R AC
TE. 103, THE DOCTORS BLDG. 81 81 87
SHEVILLE 28801
NDIANA U 704 255-4131

SS, GEORGE WESTON P AC
IGHLAND HOSPITAL 53 53 77
. O. BOX 1101
SHEVILLE 28802
OF TEXAS-SW 704 254-3201

AY, GREGORY JOSEPH HS /ORS AC
11 VICTORIA AT OAKLAND RD. 73 73 80
SHEVILLE 28801
)HIO STATE U 704 252-7331

DURHAM, CECIL TRACY, JR. N AC
7 MCDOWELL STREET 66 66 74
ASHEVILLE 28801
MED U OF SC 704 255-7776

EGLINTON, DANIEL THOMAS ORS AC
53 S. FRENCH BROAD 78 82 84
ASHEVILLE 28801
U OF NEW MEXICO 704 274-2236

ELLISTON, E. BRUCE FP AC
206 ASHELAND AVE. 72 72 74
ASHEVILLE 28801
LOMA LINDA U 704 258-8681

ELLISTON, WINSTON LEON AI /PD AC
210 ASHELAND AVE. 73 73 79
ASHEVILLE 28801
LOMA LINDA U 704 253-3382

ELMORE, MILES IM /NEP AC
10 MCDOWELL STREET 71 75 76
ASHEVILLE 28801
MED U OF SC 704 258-8545

FARMER, WOODARD EASON IM L
27 PARK RD. 39 47 47
ASHEVILLE 28813
TULANE U 704 274-0718

FELIX, RICHARD REID P /PYM AC
A-305 DOCTOR'S BUILDING 72 72 79
ASHEVILLE 28801
OHIO STATE U 704 258-3880

FISCHER, MARTIN JOSEPH TS /GS AC
520 BILTMORE AVENUE 61 62 80
ASHEVILLE 28801
WASHINGTON U 704 252-7357

FOWLER, WILLIAM BRIGHT IM AC
675 BILTMORE AVENUE 56 56 63
ASHEVILLE 28803
BOWMAN GRAY 704 252-1830

FOY, DAVID MARK FP AC
STE. 5-F, DOCTOR'S PARK 78 78 79
ASHEVILLE 28801
CASE WESTERN RES 704 252-8885

FRAZIER, CLAUDE ALBEE A AC
DOCTOR'S PARK 44 50 50
ASHEVILLE 28801
MED COLL OF VA 704 254-1650

FRIEDMAN, ALAN DAVID U AC
100 VICTORIA ROAD 68 69 80
ASHEVILLE 28801
U OF ALABAMA 704 254-8883

FRY, JOHN RUDOLPH OPH AC
20/20 PLAZA 59 65 66
90 ASHELAND AVENUE
ASHEVILLE 28801
U OF WISCONSIN 704 253-5656

GALLAGHER, TIMOTHY JOSEPH DR AC
P. O. BOX 2959 69 69 77
103 DOCTOR'S BUILDING
ASHEVILLE 28802
LA STATE U 704 255-4167

GALLOWAY, JAMES BRUCE ORS L/RT
GALLOWAY DR. 44 49 50
ASHEVILLE 28803
QUEENS U 704 274-2236

GAWOROWSKI, JOANNA MARIA P. P AC
HIGHLAND HOSPITAL 67 69 76
P. O. BOX 1101
ASHEVILLE 28802
AKADEMIA U 704 254-3201

GENTLING, PETER ALLEN GS AC
5-D DOCTOR'S PARK 64 64 72
ASHEVILLE 28801
NORTHWESTERN U 704 252-2457

GETTINGER, GLEN SCOTT AN /IM AC
211 RIVA RIDGE DR. 81 83 86
FAIRVIEW 28730
EMORY U 704 254-1969

GILBERT, GEORGE GAYLORD U L/RT
6 CRANBOURN CT. 38 47 47
GREENSBORO 27405
JOHNS HOPKINS 919 282-0168

GODBOLD, RONALD LEE D AC
281 MCDOWELL STREET 69 69 74
ASHEVILLE 28803
U OF ALABAMA 704 252-5679

GOLLBERG, HAROLD RONALD P /GER AC
445 BILTMORE CENTER, STE. 304 66 66 72
ASHEVILLE 28801
U OF TEXAS 704 252-1421

GOUGH, WILLIAM, III RHU /IM AC
445 BILTMORE CENTER, STE. 306 76 77 83
ASHEVILLE 28801
U OF ROCHESTER 704 258-9533

GRAINGER, WADE KENTON FP AC
PO BOX 696 83 84 86
SKYLAND 28776
LOMA LINDA U 704 684-7801

GRAVATT, BENJAMIN THOMAS AN AC
202 DOCTOR'S BUILDING 79 80 83
ASHEVILLE 28801
U OF PITTSBURGH 704 254-1969

GRAY, CRAIGAN LUTHER OBG AC
143 ASHELAND AVENUE 68 68 78
ASHEVILLE 28801
LOMA LINDA U 704 258-9191

GRIER, MICHAEL WILLIAM GE /IM AC
30 CHOCTAW STREET 69 69 77
ASHEVILLE 28801
U OF SOU CALIF 704 254-0881

GRIFFIN, ROBERT ASHLEY P /N AC
APPALACHIAN HALL, BOX 5534 51 52 56
ASHEVILLE 28813
TEMPLE U 704 253-3681

GRIFFIN, WILLIAM RAY, JR. P /N AC
30 HILLTOP ROAD 44 45 48
ASHEVILLE 28803
JEFFERSON 704 253-3681

GUNTHER, ROBERT CLARENCE AN AC
25 LAWRENCE PLACE 64 64 73
ASHEVILLE 28801
NEW YORK U 704 252-1016

HAMIL, SHARON SWEEDE FP AC
OLD U. S. HIGHWAY 70 79 80 81
BLACK MOUNTAIN 28711
EMORY U 704 669-5478

HANSCOM, ALFRED CARLETON IM /FP AC
BURGE MOUNTAIN RD. 53 54 81
RT. #5, BOX 89-B
HENDERSONVILLE 28739
LOMA LINDA U 704 693-7623

HAPKE, EDITH JOSEPHINE PUD /IM AC
70 WOODFIN PL., STE. 304 56 62 73
ASHEVILLE 28801
FREIEN U 704 254-8878

HARDY, WINFIELD FP AC
P. O. BOX 696 60 61 61
SKYLAND 28776
LOMA LINDA U 704 684-7801

HARTMANN, THOMAS MICHAEL DR AC
180 PATTON MOUNTAIN RD. 80 81 85
ASHEVILLE 28804
EMORY U 704 254-4617

HASLAM, JOHN BATTLE AC
200 DOCTOR'S BLDG. 65 65 71
ASHEVILLE 28801
DUKE 704 255-4100

HAZLEHURST, JOHN LIVINGSTON GS AC
16 MCDOWELL STREET 56 56 66
ASHEVILLE 28801
U OF NC 704 252-3366

HENDERSON-SMATHERS, IRMA C. PH L/RT
1295 MERRIMON AVENUE 33 33 35
ASHEVILLE 28804
TULANE U 704 252-0216

HENDERSON, JOHN ARTHUR GS AC
117 RATHFARNHAM CIRCLE 45 45 72
ASHEVILLE 28803
U OF ILLINOIS 704 254-2341

HENDERSON, REX ARTHUR EM AC
36 WEMBLEY ROAD 78 79 85
ASHEVILLE 28804
U OF MIAMI 704 255-3786

HENRY, OZMER LUCAS, JR. IM AC
T B CONTROL UNIT 48 49 56
DIVISION OF HEALTH SERVICES
BLACK MOUNTAIN 28711
BOWMAN GRAY 704 669-3117

11. BUNCOMBE COMPONENT SOCIETY (Continued)

HERTENSTEIN, JAMES C. OTO /HNS AC
81 86 87
131 MCDOWELL ST.
ASHEVILLE 28801
U OF ILLINOIS 704 254-3517

HESTER, DAVID ALAN END /IM AC
73 78 81
445 BILTMORE CENTER, STE. 302
ASHEVILLE 28801
U OF OKLAHOMA 704 253-6812

HILL, ARTHUR THEODORE, JR. IM AC
56 56 62
147 ASHLAND AVENUE
ASHEVILLE 28801
BOWMAN GRAY 704 258-1188

HILL, HAYWOOD NORTHROP, JR. IM AC
70 70 77
445-BILTMORE CTR., STE. 407
ASHEVILLE 28801
BOWMAN GRAY 704 258-0397

HINMAN, HAVILAH EDWARD OBG L/RT
36 36 49
7 RATHFARNUM RD.
ASHEVILLE 28803
U OF VERMONT 704 684-6243

HOELSCHER, KENNETH KING PM AC
61 62 85
PO BOX 15025
ASHEVILLE 28813
M C OF WISCONSIN 704 274-2400

HOLT, JOHN PLUMMER FP AC
56 58 61
86 VICTORIA ROAD
ASHEVILLE 28801
MEHARRY MED COLL 704 255-8494

HOOKER, MICHAEL PHILLIP AN AC
80 80 85
RT. #5, BOX 771
ASHEVILLE 28803
U OF OREGON 704 254-1969

HOSKINS, JOHN ROBINSON, III AN L/RT
44 50 50
7 AMHERST RD.
ASHEVILLE 28803
JEFFERSON 704 274-5049

HUBBARD, ROBERT THOMAS FP RT
43 43 47
126 LAKE SHORE DRIVE
ASHEVILLE 28804
TEMPLE U 704 252-5103

HUFF, OLSON PD AC
62 66 70
5 FREDERICK STREET
ASHEVILLE 28801
U OF LOUISVILLE 704 258-6091

HUFFMAN, ROBERT EDWARD P AC
63 63 71
146 VICTORIA ROAD
ASHEVILLE 28801
U OF TENNESSEE 704 253-3695

HUFFSTUTTER, WILLIAM MAURICE CHN /N AC
77 78 84
50 DOCTOR'S DR. STE. 210
ASHEVILLE 28801
U OF TENNESSEE 704 252-8983

HUMPHREYS, DAVID HARDING PS AC
79 80 86
5 LIVINGSTON AT VICTORIA
PLASTIC SURGERY CTR.
ASHEVILLE 28801
U OF CINCINNATI 704 253-3866

HUTTO, EDITH D RT
58 59 63
E-11 WOODFIELD
ASHEVILLE 28803
MED U OF SC 704 298-2954

HYDE, SAMUEL ELISHA III IM AC
64 64 85
P. O. BOX 9796
ASHEVILLE 28815
EMORY U 704 298-7911

ISBEY, EDWARD KENNETH, JR. OPH AC
55 61 61
495 BILTMORE AVENUE
ASHEVILLE 28801
WAYNE STATE U 704 258-1586

ISRAEL, JOHN ROBERT PS AC
62 62 75
5 LIVINGSTON STREET
ASHEVILLE 28801
U OF PITTSBURGH 704 253-7000

JAMES, ROGER ALLEN FP AC
59 66 67
946 TUNNEL ROAD
ASHEVILLE 28805
BAYLOR 704 298-7981

JARRETT, DAVID LINCOLN ORS AC
63 63 74
53 S. FRENCH BROAD ST.
ASHEVILLE 28801
LOMA LINDA U 704 252-7180

JENSEN, ROGER D. FP AC
75 76 87
491 BILTMORE AVE.
ASHEVILLE 28801
U OF NEBRASKA 704 258-0670

JOHNSON, RANDALL DIVAN GS /CDS AC
75 77 83
16 MCDOWELL STREET
ASHEVILLE 28801
U OF MICHIGAN 704 252-3366

JOHNSON, RONALD W. FP AC
81 82 87
172 ASHELAND AVE.
ASHEVILLE 28801
MED U OF SC 704 252-1131

JONAS, JAROSLAV GEORGE ORS AC
54 54 82
20 BEAVERBROOK ROAD
ASHEVILLE 28804
U OF ZURICH 704 255-0510

KELEHER, MICHAEL FRANCIS GS L/RT
40 49 49
18 MAYWOOD ROAD
ASHEVILLE 28804
U OF COLORADO 704 254-1835

KELLER, CHARLES AUGUSTUS, JR. CDS AC
59 67 67
257 MCDOWELL STREET
ASHEVILLE 28803
LA STATE U 704 258-1121

KELLY, RICHARD BRUCE FP AC
80 80 85
5-7 DOCTOR'S PARK
ASHEVILLE 28801
MED COLL OF OHIO 704 258-0670

KENNEDY, THOMAS FRANCIS R AC
68 69 74
P. O. BOX 2959
ASHEVILLE 28802
U OF MICHIGAN 704 254-4617

KHATRI, DAVE IM /GER AC
64 79 80
549 MERRIMON AVENUE
ASHEVILLE 28801
KASTURBA U 704 253-5685

KILLIAN, JOHN HUME OPH AC
67 67 75
276 E. CHESTNUT STREET
ASHEVILLE 28801
BOWMAN GRAY 704 255-8978

KITTNER, PHILIP JOEL OBG AC
64 64 71
80 VICTORIA ROAD
ASHEVILLE 28801
NEW YORK MED COL 704 255-8900

KNOEFEL, ARTHUR EUGENE, JR. FP L/RT
35 35 38
114 MONTREAT RD.
PO BOX 875
BLACK MOUNTAIN 28711
LA STATE U 704 669-8121

KODACK, ALBERT FP /GYN L
40 43 46
34 SUNSET SUMMIT
ASHEVILLE 28804
U OF TORONTO 704 252-1131

KROLL, LARRY LEROY ORS AC
65 66 75
53 S. FRENCH BROAD ST.
ASHEVILLE 28801
LOMA LINDA U 704 252-7180

KRUEGER, ALAN LEE P AC
67 68 79
CALEDONIA ROAD
P. O. BOX 5534
ASHEVILLE 28813
U OF KANSAS 704 253-3681

KUBITSCHECK, KENNETH R. IM AC
78 78 86
445 BILTMORE CTR., STE. 407
ASHEVILLE 28801
BAYLOR 704 258-0397

LACY, GEORGE RUFUS, JR. PTH /CLP L/RT
43 53 53
14 FOREST ROAD
ASHEVILLE 28803
U OF PITTSBURGH

LAURENS, JOHN CRS AC
44 44 75
445 BILTMORE CENTER, STE. 303
ASHEVILLE 28801
TULANE U 704 258-8181

LAWRENCE, HAL CLIFFORD, III OBG AC
75 75 79
93 VICTORIA ROAD
ASHEVILLE 28801
INDIANA U 704 253-4821

LAWRENCE, JOHN ELMORE, JR. CD /IM AC
72 74 82
554 CHUNNS COVE ROAD
ASHEVILLE 28805
DUKE 704 254-8054

LEAKE, ARTHUR ELDRIDGE, JR. AN AC
66 66 72
54 WESTALL AVENUE
ASHEVILLE 28804
U OF NC 704 255-3743

LEDBETTER, JOHN WINSLOW N AC
53 53 59
7 MCDOWELL STREET
ASHEVILLE 28801
BOWMAN GRAY 704 255-7776

LEE, IL SUNG IM AC
66 75 76
P. O. BOX 370
ENKA 28728
CATHOLIC U 704 667-5298

LEE, TERRENCE JOHN ID /IM AC
72 74 79
445 BILTMORE CENTER, STE. 404
ASHEVILLE 28801
GEORGETOWN U 704 258-9635

LERNER, PAUL U AC
54 61 61
1 DOCTOR'S PARK
ASHEVILLE 28801
BOSTON U 704 253-5314

LIGON, HAROLD BELTON FP AC
55 56 56
MEDICAL CENTER BUILDING
86 VICTORIA ROAD
ASHEVILLE 28801
MED U OF SC 704 252-1585

LINCOLN, DAVID OGDEN ORS AC
65 67 73
69 MCDOWELL ST.
ASHEVILLE 28801
ST U OF NY-BUFF 704 255-7526

LITTLEJOHN, JAMES TALMADGE IM /CD AC
45 51 52
416 DOCTOR'S BUILDING
ASHEVILLE 28801
U OF PENN 704 253-0443

LITZENBERGER, W. A. DREW NPM /PD AC
78 82 83
304-M DOCTOR'S BLDG.
ASHEVILLE 28801
U OF KENTUCKY 704 253-1998

LOOMIS, RALPH CHARLES NS AC
76 77 83
7 MCDOWELL STREET
ASHEVILLE 28801
INDIANA U 704 255-7776

LYLES, EVELYN MCMASTER OBG AC
81 82 87
93 VICTORIA ROAD
ASHEVILLE 28801
MED U OF SC 704 253-4821

LYSKO, JANE E. PTH AC
81 82 87
ST. JOSEPH'S HOSPITAL
DEPT. OF PATHOLOGY
ASHEVILLE 28801
U OF NC 704 255-3949

MACALPINE, ORVILLE DUNCAN PD L/RT
40 49 49
98 HOLLY HILL DR.
CANDLER 28715
LOMA LINDA U 704 667-5553

MACATEE, GEORGE, JR. PH /OBG L/RT
39 47 47
20 SUNSET SUMMIT
ASHEVILLE 28804
GEO WASHINGTON U 704 252-4905

MADDOX, CHARLES DEATON IM AC
66 66 78
4-B DOCTOR'S PARK
ASHEVILLE 28801
MED COLL OF GA 704 253-2865

MAITLAND, ALEXANDER, III U AC
55 61 62
1 DOCTOR'S PARK
ASHEVILLE 28801
YALE 704 253-5314

MALONEY, SEAN ROBERT PM AC
80 81 84
50 DOCTORS DR. STE. W-20
ASHEVILLE 28801
EMORY U 704 254-9796

MARTIN, DENNIS LEE N AC
65 65 74
7 MCDOWELL ST.
ASHEVILLE 28801
U OF VIRGINIA 704 255-7776

MARTIN, J. PAUL FP AC
76 77 85
491 BILTMORE AVE.
ASHEVILLE 28801
U. OF ARIZONA 704 258-0670

MASTERS, KIM JAMES P /CHP AC
72 74 85
APPALACHIAN HALL
PO BOX 5534
ASHEVILLE 28813
HARVARD 704 253-3681

MAUNEY, FRANK MAXTON, JR. CDS /TS AC
59 59 68
257 MCDOWELL STREET
ASHEVILLE 28803
DUKE 704 258-1121

11. BUNCOMBE COMPONENT SOCIETY (Continued)

:CALL, WILLIAM HERBERT OPH L
501 CITY BUILDING 38 41 41
ASHEVILLE 28801
MED COLL OF VA 704 253-0421

:CALLUM, REX MONROE RHU AC
445 BILTMORE AVE. STE. 306 80 83 86
ASHEVILLE 28801
VANDERBILT U 704 258-9533

:CONNELL, MARY HELEN PD AC
575 BILTMORE AVENUE 50 55 55
ASHEVILLE 28803
GEO WASHINGTON U 704 253-1641

:CULLOUGH, CHARLES T.,JR. ORS AC
129 MCDOWELL ST. 61 61 71
ASHEVILLE 28801
VANDERBILT U 704 258-8800

:DUFFIE, ROBERT STANLEY OBG L/RT
325 VANDERBILT RD. 44 44 54
ASHEVILLE 28803
EMORY U 704 254-8166

:GHEE, TERENCE BARCLAY N /IM AC
7 MCDOWELL STREET 76 77 81
ASHEVILLE 28801
MED COLL OF GA 704 255-7776

:GUIRE, JOHN O'BRIEN GS /CDS AC
16 MCDOWELL STREET 71 72 79
ASHEVILLE 28801
DUKE 704 252-3366

:KEEL, MILLARD FILMORE NS AC
445 BILTMORE AVE. 49 49 56
ASHEVILLE 28801
U OF ILLINOIS 704 258-8500

:LEAN, WALTER COPLEY, JR. OPH AC
276 E. CHESTNUT ST. 75 76 82
ASHEVILLE 28801
U OF VIRGINIA 704 255-8978

ICMILLAN, JAMES H. FP AC
206 ASHELAND AVE. 77 78 84
ASHEVILLE 28801
MED COLL OF GA 704 258-8681

IENDELSOHN, STEVEN LOUIS RHU /IM AC
445 BILTMORE CTR., STE. 306 78 79 84
ASHEVILLE 28801
U OF ROCHESTER 704 258-9533

IICHAEL, OTIS BENTLEY IM /CD AC
DOCTOR'S BLDG, SUITE 301 61 63 68
ASHEVILLE 28801
MEHARRY MED COLL 704 255-8947

IILTON, DAVID THOMAS DR AC
445 BILTMORE, STE. 301 81 81 86
ASHEVILLE 28801
U OF TENNESSEE 704 255-3562

IOFFATT, ROBERT CARR ON /GS AC
30 VICTORIA ROAD 57 65 66
ASHEVILLE 28801
U OF TENNESSEE 704 258-2464

IONTGOMERY, JAMES HUGH R /IM AC
445 BILTMORE CTR., STE. 301 78 78 85
ASHEVILLE 28801
U OF TENNESSEE 704 255-3565

IONTGOMERY, WAYNE SWOPE ORS AC
129 MCDOWELL ST. 48 55 55
ASHEVILLE 28801
WAYNE STATE U 704 258-8800

IOORE, EDWARD EUGENE OPH AC
3 DOCTOR'S PARK 42 47 48
ASHEVILLE 28801
HARVARD 704 252-6741

IORETZ, FRANK HANNON AN AC
202 DOCTOR'S BUILDING 74 76 81
ASHEVILLE 28801
U OF NC 704 254-1969

IORGAN, WILLIAM WATSON, JR. PDS /GS AC
P. O. BOX 15083 61 61 73
ASHEVILLE N C 28813
U OF NC 704 274-4105

IORRIS, ARTHUR SHERMAN, JR. OBG AC
80 VICTORIA ROAD 59 59 69
ASHEVILLE 28801
U OF NC 704 255-8900

IORRISON, ROGER WILLIAM PTH /CLP L/RT
4 LUCKY LANE 43 51 52
ASHEVILLE 28804
HARVARD 704 252-4868

MOSER, ARTUS MONROE, JR. NEP /IM AC
10 MCDOWELL STREET 64 64 70
ASHEVILLE 28801
U OF NC 704 258-8545

MULLIS, DONALD LEE ORS AC
111 VICTORIA ROAD 72 73 80
ASHEVILLE 28801
U OF MIAMI 704 252-7331

NAGEL, DONALD CHARLES PYM /FP AC
ALCOHOL REHAB. CTR. 72 72 76
P.O. BOX 1441
BLACK MOUNTAIN 28711
U OF NC 704 253-6364

NAILLING, RICHARD CABOT GS /GYN L
5 DOCTOR'S PARK 40 43 44
ASHEVILLE 28801
VANDERBILT U 704 254-6381

NEBLETT, DONALD THOMAS P /PD AC
16 ALL SOULS CRESCENT 58 59 78
ASHEVILLE 28803
U OF TENNESSEE 704 274-1415

NOELL, JOHN STANFORD FP AC
OLD HIGHWAY 70 56 56 83
P. O. BOX 1441
BLACK MOUNTAIN 28711
U OF NC 704 669-3425

NORBURN, CHARLES S. GS L
P. O. BOX 5216 17 24 24
BILTMORE 28803
U OF VIRGINIA 704 272-6204

NORBURN, RUSSELL LEE EM L
1617 HENDERSONVILLE RD. 25 25 27
ASHEVILLE 28803
VANDERBILT U 704 274-3557

NOTO, JOSEPH ANTHONY TS /GS AC
520 BILTMORE AVENUE 61 61 71
ASHEVILLE 28801
U OF PENN 704 252-7357

O'CAIN, CHARLES FRANK PUD /IM AC
30 CHOCTAW STREET 73 74 81
ASHEVILLE 28801
EMORY U 704 255-7733

OLINGER, BENJAMIN RAY OTO AC
131 MCDOWELL STREET 60 67 67
ASHEVILLE 28801
U OF VIRGINIA 704 254-3517

OLSON, PAUL RICHARD FP AC
ROUTE #3, BOX 112 68 77 78
LEICESTER 28748
U OF VERMONT 704 258-0635

OXNER, CLAUDIA GERTRUDE AN AC
DOCTOR'S BLDG.,RM. #202 56 60 60
ASHEVILLE 28801
MED U OF SC 704 254-1960

PASCHAL, BARTON RILEY ON /HEM AC
ONE DOCTORS DR. 76 76 81
ASHEVILLE 28801
EMORY U 704 254-8232

PATE, BARRY REEVES OTO /HNS AC
285 MCDOWELL STREET 58 59 62
ASHEVILLE 28803
U OF NC 704 252-1853

PAYNE, WINSTON CHARLES OPH AC
20/20 PLAZA,90 ASHLAND AVE. 67 68 74
ASHEVILLE 28801
U OF MICHIGAN 704 253-4735

PETERSON, ERIC WEBSTER P AC
5 CROWNINGWAY DR. 71 71 82
ASHEVILLE 28804
DUKE 704 254-3201

PETERSON, NEIL PAUL R /NM AC
P. O. BOX 2959 78 78 84
ASHEVILLE 28802
NORTHWESTERN U 704 254-4617

PIKE, ISADORE MURRAY ON /HEM AC
80 VICTORIA ROAD 67 68 75
ASHEVILLE 28801
EMORY U 704 258-0994

PORTER, CEDRIC WARREN, JR. OBG /GPM AC
93 VICTORIA ROAD 64 65 73
ASHEVILLE 28801
COLUMBIA U 704 253-4821

POTTS, LEO JOSEPH P AC
P. O. BOX 1101 55 54 82
HIGHLAND HOSPITAL
ASHEVILLE 28802
U OF ADELAIDE 704 254-3201

POWELL, BENJAMIN PHILIP AN AC
421 VANDERBILT ROAD 71 72 79
ASHEVILLE 28803
U OF ALABAMA 704 252-1016

POWELL, JACK GS AC
190 W. DOCTOR'S BUILDING 47 50 54
ASHEVILLE 28801
LOMA LINDA U 704 253-1529

POWELL, JAMES BLACKMON, II HNS /PSF AC
131 MCDOWELL STREET 65 65 74
ASHEVILLE 28801
U OF ALABAMA 704 254-3517

POWELL, WILLIAM FLYNN OPH /OTO L/RT
62 GERTRUDE PLACE 37 38 46
ASHEVILLE 28801
DUKE 704 252-8931

PRATHER, FONZO GOFF GP L/RT
5 FAIRWAY DRIVE 23 23 47
ASHEVILLE 28805
U OF MARYLAND 704 298-4071

PRINTZ, DON RALPH D L/RT
10 DEERFIELD ROAD 32 32 47
ASHEVILLE 28803
OHIO STATE U 704 274-1234

PYERITZ, ERIC ALLEN FP AC
501 BILTMORE AVE. 78 80 87
ASHEVILLE 28801
U OF PITTSBURGH 704 258-0670

RANKIN, CHARLES ALBERT, JR. OBG AC
80 VICTORIA ROAD 54 67 68
ASHEVILLE 28801
JEFFERSON 704 255-8900

RAPER, JAMES SIDNEY R L/RT
29 MARTINDALE ROAD 38 46 10
ASHEVILLE 28804
DUKE 704 253-0027

RARDIN, THOMAS EDWIN RHU AC
43 OAKLAND ROAD 62 68 72
ASHEVILLE 28801
CASE WESTERN RES 704 253-2824

RATHBUN, LEWIS STANDISH GYN L/RT
76 FOREST RD. 39 47 48
ASHEVILLE 28803
HARVARD 704 274-0748

REYNOLDS, ROBERT JACK IM AC
445 BILTMORE AVE. STE. 407 80 81 86
ASHEVILLE 28801
U OF TENNESSEE 704 258-0397

RIBNER, BRUCE STEVEN ID AC
VA MEDICAL CENTER 70 71 87
ASHEVILLE 28805
HARVARD 704 298-7911

RICE, LUCIAN CANDLER, JR. IM AC
147 ASHELAND AVENUE 70 71 73
ASHEVILLE 28801
EMORY U 704 258-1188

ROBERTS, ROY FOSTER IM /CD L
P. O. BOX 8127 33 33 35
ASHEVILLE 28814
TULANE U 704 253-6549

ROBERTSON, BRISON OAKLEY, III FP AC
5-F DOCTOR'S PARK 80 81 84
ASHEVILLE 28801
U OF SOU ALA 704 252-8885

ROGERS, DAVID YORK FP /EM AC
115 1/2 MT. CARMETL RD. 77 80 84
ASHEVILLE 28806
HAHNEMANN 704 253-3717

ROSENBERG, JOEL BENJAMIN IM AC
445 BILTMORE CENTER, STE. 305 77 77 81
ASHEVILLE 28801
U OF CONNECTICUT 704 253-1482

ROWE, CHARLES THOMAS DR AC
DOCTOR'S BLDG. STE. 103 68 68 79
PO BOX 2959
ASHEVILLE 28802
U OF VIRGINIA 704 254-4617

11. BUNCOMBE COMPONENT SOCIETY (Continued)

RUSSELL, JEFFREY KENT DIA /END AC
445 BILTMORE CENTER, STE. 302 72 72 77
ASHEVILLE 28801
U OF VIRGINIA 704 253-6812

RUSSELL, JOHN HUNTER CD AC
14 MCDOWELL ST. 63 63 71
ASHEVILLE 28801
U OF VIRGINIA 704 254-8054

RUSSELL, PHILIP EVERITT IM /PUD AC
204 DOCTOR'S BUILDING 50 54 54
ASHEVILLE 28801
DUKE 704 253-9371

SAENGER, PAUL JAY ORS AC
129 MCDOWELL ST. 76 76 85
ASHEVILLE 28801
U OF NC 704 258-8800

SAGBERG, ANNE ELISABETH P AC
343 BARNARD AVENUE 47 58 59
ASHEVILLE 28804
U OF OSLO 704 254-3201

SALISBURY, KENT WILLIAM CD /IM AC
14 MCDOWELL STREET 68 68 77
ASHEVILLE 28801
HARVARD 704 254-8054

SANDRIDGE, DAVID ALLEN OBG AC
50 DOCTORS DR. #120 W.ANNEX 65 65 74
ASHEVILLE 28801
MED COLL OF VA 704 255-8900

SAUNDERS, WADE HAMPTON,III CD AC
14 MCDOWELL STREET 67 68 73
ASHEVILLE 28801
DUKE 704 254-8054

SAVORY, PAUL BORRODAILE R AC
78 FOREST RD. 47 47 70
ASHEVILLE 28803
MCGILL U 704 274-3628

SCHULHOF, LARY ALAN NS AC
7 MCDOWELL STREET 69 69 75
ASHEVILLE 28801
INDIANA U 704 255-7776

SCHUTTE, HAROLD DELANO PD AC
53 S. FRENCH BROAD AVE. 62 63 63
ASHEVILLE 28801
LOMA LINDA U 704 258-0969

SEALS, DANIEL HILTON IM AC
9 BOTANY VIEW COURT 53 56 57
ASHEVILLE 28805
TEMPLE U 704 298-3907

SELMAN, RICHARD DAVID P AC
HIGHLAND HOSPITAL 72 72 73
P. O. BOX 1101
ASHEVILLE 28802
EMORY U 704 254-3201

SERFAS, DAVID HILL CD AC
14 MCDOWELL ST. 77 77 86
ASHEVILLE 28801
CORNELL U 704 254-8054

SEVERN, HENRY DOELLER ORS L/RT
4 PINE TREE RD. 40 46 47
ASHEVILLE 28804
JOHNS HOPKINS 704 252-9948

SHAMBLIN, WILLIAM JOSEPH, JR CHP /P AC
HIGHLAND HOSPITAL 71 75 76
P. O. BOX 1101
ASHEVILLE 28802
U OF ALABAMA 704 254-3201

SHIELDS, CHARLES ROBERT PM AC
PO BOX 15025 80 81 84
ASHEVILLE 28813
U OF OKLAHOMA 704 274-2400

SHIREY, JOHN LUTHER A L/RT
NEW LEICESTER HIGHWAY 39 49 50
RT. #4, BOX 1525
ASHEVILLE 28806
JEFFERSON 704 683-2360

SHIVERS, JAMES ALLISON DR /NM AC
STE. 301, 445 BILTMORE CENTER 71 71 77
ASHEVILLE 28801
U OF NC 704 254-2371

SHOOK, EARL LESTER, JR. U AC
100 VICTORIA ROAD 52 58 58
ASHEVILLE 28801
NEW YORK MED COL 704 254-8883

SHUFORD, FULLER ADAMS GE /IM AC
49 MCDOWELL ST. 62 62 66
ASHEVILLE 28801
U OF NC 704 258-3870

SLOAN, JAMES MARSHALL, III FP AC
942 TUNNEL ROAD 56 56 62
ASHEVILLE 28805
DUKE 704 298-7972

SLUDER, FLETCHER SUMPTER OBG L/RT
472 CHUNN'S COVE ROAD 38 38 46
ASHEVILLE 28805
RUSH MED COLL 704 252-7374

SMITH, EVERETT DUANE GP AC
BOX 1030 53 54 54
CANDLER 28715
LOMA LINDA U 704 667-2526

SMITH, RICHARD LLOYD GE AC
30 CHOCTAW STREET 72 72 79
ASHEVILLE 28801
TULANE U 704 254-0881

SNODDY, WILLIAM RAY FP AC
5-F DOCTOR' PARK 75 77 78
ASHEVILLE 28801
U OF ALABAMA 704 252-8885

SOMMERVILLE, LEWIS CASS FP AC
1425 PATTON AVENUE 54 55 55
ASHEVILLE 28806
LOMA LINDA U 704 254-5385

SPENCER, JOHN PAUL ORS AC
111 VICTORIA AT OAKLAND 72 76 79
ASHEVILLE 28801
U OF CA-DAVIS 704 252-7331

SPRINKLE, LAWRENCE TILSON GP AC
BOX 218, 104 N. MAIN ST. 45 45 48
WEAVERVILLE 28787
JEFFERSON 704 645-3031

SQUIRES, RAYMOND JAY PTH AC
49 FOREST ROAD 69 72 78
ASHEVILLE 28803
EMORY U 704 274-4664

STANLEY, SHERBURN MOORE OM L/RT
ROUTE #1, BOX 5 40 48 50
TODD 28684
MCGILL U 704 264-4274

STEELE, RICHARD AUSTIN IM /CD AC
445 BILTMORE AVE. STE. 408 56 56 86
ASHEVILLE 28801
DUKE 704 258-9083

STEINFELD, JOHN ROBERT DR AC
P. O. BOX 2959 68 68 75
ASHEVILLE 28802
U OF VIRGINIA 704 254-4617

STEPHENS, FREEMAN IRBY IM L/RT
54 SUNSET PARKWAY 40 48 48
ASHEVILLE 28801
COLUMBIA U 704 253-8178

STEVENS, JAMES CONRAD GS AC
445 BILTMORE AVE., STE. 403 73 73 87
ASHEVILLE 28801
U OF ALABAMA 704 253-4143

SUMMERLIN, HARRY HOLLER, JR. FP AC
944 TUNNEL ROAD 61 61 66
ASHEVILLE 28805
DUKE 704 298-3090

TAUBER, STUART DAVIS END AC
29 RAVENSCROFT DRIVE 60 60 73
ASHEVILLE 28801
U OF PITTSBURGH 704 258-2404

TEAFORD, MICHAEL JACOB PTH AC
ST. JOSEPH'S HOSPITAL 76 78 83
ASHEVILLE 28801
MED COLL OF GA 704 255-3943

TENNEY, JAMES BERNARD GPM /PH AC
32 HOYT ROAD 60 65 77
ARDEN 28704
HAHNEMANN 704 255-5671

THOMPSON, FRANK ALAN GE /IM AC
W-18 DOCTORS BLDG. 75 76 81
ASHEVILLE 28801
U OF NC 704 252-2904

THORNE, NORMAN ALAN R /NM AC
829-B THE OVERLOOK 58 58 64
719 EDWARD ST.
CHAPEL HILL 27514
DUKE

THRASH, WILLIAM VIRGIL IM AC
147 ASHELAND AVENUE 70 71 7
ASHEVILLE 28801
MED COLL OF GA 704 258-118

TRAMM, JEANNE NORGAARD AN AC
ST. JOSEPH'S HOSPITAL 81 82 8
ASHEVILLE 28801
NORTHWESTERN U 704 252-101

TROXLER, DAVID HAYS PUD AC
30 CHOCTAW ST. 74 75 8
ASHEVILLE 28801
DUKE 704 255-773

TURK, ROBERT SPENCER GS AC
3-D DOCTORS PARK 56 56 6
ASHEVILLE 28801
EMORY U 704 258-820

VALENCIA, RODOLFO CIRINEO IM AC
425-B U. S. HIGHWAY 70 64 64 7
SWANNANOA 28778
U OF SANTO TOMAS 704 686-388

VAN-BLARICOM, LAWRENCE S. NS AC
445 BILTMORE AVE. 49 58 5
ASHEVILLE 28801
DALHOUSIE U 704 258-850

VANDERBEEK, RANDALL B. U AC
100 VICTORIA RD. 63 63 7
ASHEVILLE 28801
DUKE 704 254-888

VOLLMER, DONALD HENRY IM L/R
RT. #1, CROSS CREEK COVES 40 49 4
ANDREWS 28901
LOMA LINDA U 704 321-561

WALLENBORN, PETER AMBROSE,III OTO AC
4 LYNNWOOD ROAD 79 84 8
ASHEVILLE 28804
U OF VIRGINIA 704 252-185

WALLER, LOUIS CLINTON FP L/R
1425 PATTON AVENUE 44 46 4
ASHEVILLE 28806
LOMA LINDA U 704 252-834

WALLER, ROBERT JOSEPH TR AC
200 DOCTOR'S BUILDING 73 74 7
ASHEVILLE 28801
GEORGETOWN U 704 255-410

WALTON, RICHARD FRANK FP AC
491 BILTMORE AVE. 61 63 7
ASHEVILLE 28801
QUEENS U 704 258-063

WEAST, ROBERT RANDOLPH DR AC
STE. 301, 445 BILTMORE CENTER 70 72 7
ASHEVILLE 28801
U OF PENN 704 254-237

WEAVER, ZEBULON, III HEM /ON AC
80 VICTORIA ROAD 61 61 6
ASHEVILLE 28801
U OF NC 704 258-099

WEILBAECHER, JAMES EDWARD, JR. ORS AC
129 MCDOWELL STREET 58 65 7
ASHEVILLE 28801
LA STATE U 704 258-880

WEISENBERGER, ANTHONY JOSEPH P AC
APPALACHIAN HALL 71 72 8
P. O. BOX 5534
ASHEVILLE 28813
WASHINGTON U 704 253-368

WEISS, RICHARD ELLIOTT NS AC
7 MCDOWELL STREET 64 64 7
ASHEVILLE 28801
STANFORD U 704 255-777

†WEIZENBLATT, SPRINZA OPH L
C/O TRUST DEPARTMENT 22 29 3
DECEASED - 4-5-87
ASHEVILLE 28802
U OF WIEN

WELLS, ROBERT STANLEY IM AC
445 BILTMORE CTR., STE. 407 80 83 8
ASHEVILLE 28801
U OF OKLAHOMA 704 258-039

WHITE, TERRY EDWARD PM AC
PO BOX 15025 80 83 8
ASHEVILLE 28813
U OF MISSOURI 704 274-240

11. BUNCOMBE COMPONENT SOCIETY (Continued)

LLETT, EUGENE STANLEY ORS AC
111 VICTORIA AT OAKLAND ROAD 69 70 77
ASHEVILLE 28801
MED COLL OF VA 704 252-7331

LLIAMS, CHARLES EMERY OTO /HNS AC
285 MCDOWELL STREET 63 63 75
ASHEVILLE 28803
LA STATE U 704 252-1853

LSON, CATHERINE MARIE OBG AC
143 ASHELAND AVENUE 63 68 70
ASHEVILLE 28801
LOMA LINDA U 704 258-9191

LSON, ROEBY BRYANT GP L/RT
1330 W. SECOND AVENUE 31 31 33
GASTONIA 28052
U OF LOUISVILLE 704 865-3940

WITTEN, ERNEST ROBERT SIDNEY IM AC
80 WEMBLEY RD. 44 44 50
ASHEVILLE 28804
GEORGETOWN U 704 253-5707

WOODARD, MARSHALL WAYNE OPH AC
607 FLATIRON BUILDING 43 54 55
ASHEVILLE 28801
DUKE 704 252-5668

WORLEY, JAMES HARR GS L
675 BILTMORE AVENUE 32 32 35
ASHEVILLE 28803
U OF TENNESSEE 704 254-2361

YODER, CHARLES DEWAYNE PD /NPM AC
50 DOCTOR'S DR., STE. 304M 74 74 78
ASHEVILLE 28801
U OF NC 704 253-1998

YOUNG, JOHN CLINGMAN GP L/RT
271 FAIRWAY DRIVE 26 26 29
ASHEVILLE 28805
U OF TENNESSEE 704 298-8362

YOUNG, MICHAEL HARRILL N /IM AC
50 DOCTOR'S DR., STE. 215 75 78 82
ASHEVILLE 28801
U OF NC 704 252-6066

12. BURKE COMPONENT SOCIETY

OFFICERS—**President:** Robert C. Owens, M.D., 341 E. Parker Rd., Morganton 28655 (704 433-0225)
Secretary: Edward T. Plyler, M.D., 2203 S. Sterling St., Morganton 28655 (704 437-4211)

ERNATHY, DAVID SMITH /IM AC
341 E. PARKER ROAD 80 81 84
MORGANTON 28655
DUKE 704 433-0225

IDERSON, LARRY GLENN ORS AC
2203 STERLING ST. 67 71 76
MORGANTON 28655
U OF ILLINOIS 704 437-6500

ITLEY, RAY M., SR. R AC
2201 S. STERLING ST. 62 62 86
MORGANTON 28655
EMORY U

RNEY, WILLIAM CHARLES FP L/RT
214 WEST PARK DR. 40 40 42
MORGANTON 28655
U OF MARYLAND 704 437-2972

ARRON, JOHN ISAAC FP L
P. O. BOX 489 50 51 52
MORGANTON 28655
U OF TENNESSEE 704 437-5641

OWEN, J. HARTLEY, III PTH AC
208 CAMELOT DRIVE 77 79 83
MORGANTON 28655
JEFFERSON 704 438-2254

REZICKI, PAUL ALEXANDER FP AC
PO BOX 599 79 80 86
RUTHERFORD COLLEGE 27671
U OF TORONTO 704 874-2811

JJARD, ROBERT S., JR. P AC
331 NORTH FIRST STREET 58 58 86
ALBEMARLE 28001
BAYLOR 704 433-2058

JJOLD, EDWARD JAMES FP AC
12 DUDLEY AVE. 77 84 86
GRANITE FALLS 28630
WAYNE STATE U 704 396-3168

JKHARI, MUSHTAQ AHMAD GE /IM AC
DOCTOR'S CLINIC 68 75 81
RUTHERFORD COLLEGE
VALDESE 28690
SRINAGAR MED SCH 704 437-8314

HURCH, JACK LEE R /IM AC
BOX 104, BROUGHTON HOSP. 63 64 71
MORGANTON 28655
U OF TENNESSEE 704 433-2256

OLLETT, JAMES ROUNTREE IM /CD L/RT
2203 S. STERLING ST., STE. 231 44 44 47
MORGANTON 28655
HARVARD 704 437-0121

ROFT, JAMES MORRIS FP AC
P. O. DRAWER 849 64 65 65
MORGANTON 28655
MED COLL OF GA 704 437-9401

ROOM, DORWYN WAYNE, II PTH AC
311 S. SHORE DR. 76 79 81
NEBO 28761
WASHINGTON U

AVIS, ANDREW CALVIN OPH AC
335 E. PARKER RD. 79 79 83
MORGANTON 28655
MED U OF SC 704 433-6220

DEATON, PLEASANT PAUL GS AC
PO BOX 700 53 60 60
VALDESE 28690
MED COLL OF VA 704 874-0555

DEEKENS, STEWART ANDREWS, JR. FP AC
350 E. PARKER ROAD 78 81 84
MORGANTON 28655
MED COLL OF VA 704 437-9401

DELLINGER, CLYDE JAMES FP AC
P. O. BOX 8 61 63 64
DREXEL 28619
DUKE 704 437-3634

ELLISON, CARROL WENDELL OBG AC
500 E. PARKER ROAD 68 69 76
MORGANTON 28655
MED COLL OF GA 704 433-5700

FORGY, BYRON KEITH GS AC
341 E. PARKER ROAD 72 74 81
MORGANTON 28655
U OF MIAMI 704 433-6390

FREEMAN, WILLIAM TOWNSEND AN AC
P. O. BOX 2245 53 53 85
MORGANTON 28655
MED U OF SC 704 438-2168

GARROU, BENJAMIN WESLEY, SR. IM /ON AC
560 MALCOLM BLVD. 61 61 67
RUTHERFORD COLLEGE 27671
U OF NC 704 874-0522

GILES, JOHN HENRY GS AC
350 E. PARKER ROAD 59 59 72
MORGANTON 28655
BOWMAN GRAY 704 437-7388

GLUGOVER, DONALD BENJAMIN ORS AC
76 MONTANYA VIEW 62 62 85
VALDESE 28690
CHICAGO MED SCH 704 874-3379

HAMER, ALFRED WILSON, JR. OBG AC
2203 S. STERLING ST., STE. 132 58 58 65
MORGANTON 28655
U OF NC 704 437-6122

HART, ELZIE FRANKLIN, JR. OTO /PS AC
350 E. PARKER ROAD 67 67 74
MORGANTON 28655
U OF NC 704 433-6410

HERINGTON, DAVID S. FP AC
2203 S. STERLING ST. 83 85 87
MORGANTON 28655
U OF MARYLAND 704 437-4241

HOGSHEAD, RALPH, JR. FP AC
P. O. DRAWER 690 43 48 48
MORGANTON 28655
TEMPLE U 704 437-8121

HOWERTON, PHILIP THOMAS R AC
2203 S. STERLING ST., STE.176 58 58 66
MORGANTON 28655
DUKE 704 438-2250

JACUMIN, WALTER JOE R /NM AC
P. O. BOX 700 66 66 72
VALDESE 28690
MED COLL OF VA 704 879-9541

JARRAH, AZMI SHAFIQ PD /PNP AC
100 MEDICAL HTS. 61 61 74
MORGANTON 28655
AMER.U OF BEIRUT 704 433-9630

JOHNSON, JAMES CLARE P AC
101 WILDWOOD DR. 44 44 79
MORGANTON 28655
VANDERBILT U 704 433-2564

KATH, PHILIP DOUGLAS OPH AC
335 E. PARKER ROAD 76 77 81
MORGANTON 28655
MAYO MED SCHOOL 704 433-6220

KILBRIDE, KEVIN ANTHONY P /GP AC
BOX 114, BROUGHTON HOSPITAL 61 62 82
MORGANTON 28655
NAT U OF IRELAND 704 433-2476

KIRKSEY, WILLIAM ALBERT GP L/RT
302 S. KING STREET 44 47 47
MORGANTON 28655
WASHINGTON U 704 437-1850

LAFFERTY, JOHN MORRISON OBG AC
PO BOX 597 79 80 76
RUTHERFORD COLLEGE 28671
U OF NC 704 874-2251

LANG, ANDREW MARTIN FP L/RT
2203 S. STERLING STREET 43 47 47
MORGANTON 28655
MED COLL OF VA 704 437-4211

LEE, CHOO HYUNG IM /HEM AC
BROUGHTON HOSPITAL 48 48 73
MORGANTON 28655
YONSEI U 704 433-2501

LEE, KYUNG KUN GS AC
P. O. BOX 2203 57 57 82
MORGANTON 28655
YONSEI U 704 433-2463

LEE, SAE SOON GS /PDS AC
350 E. PARKER RD. 48 48 70
PO BOX 1054
MORGANTON 28655
YONSEI U 704 437-7395

LINDQUIST, RICHARD KURT OBG AC
2203 S. STERLING ST., STE. 132 59 59 64
MORGANTON 28655
DUKE 704 437-6122

MCGIMSEY, JAMES FRANKS, JR. IM /P AC
WESTERN CAROLINA CENTER 43 46 84
ENOLA ROAD
MORGANTON 28655
HARVARD 704 433-2744

MELTON, JAMES DURANT FP AC
ROUTE #3, BOX 50 70 70 86
MORGANTON 28655
U OF NC 704 437-9401

MOORE, WILLIAM MORGAN, III OBG AC
403 S. KING STREET 71 72 78
MORGANTON 28655
MED COLL OF GA 704 433-4661

NEALE, RICHARD CARROLL, JR. PTH /CLP AC
P. O. BOX 249 59 65 66
RUTHERFORD COLLEGE 28671
MED COLL OF VA 704 879-8767

12. BURKE COMPONENT SOCIETY (Continued)

OMER, SYED — N /IM AC
BROUGHTON HOSPITAL — 51 52 74
MORGANTON 28655
OSMANIA MED COLL — 704 433-2284

ORRISON, WILLIAM GRESHAM — OPH AC
335 E. PARKER ROAD — 69 69 78
MORGANTON 28655
U OF TEXAS — 704 433-6220

OWENS, ROBERT CARL — IM AC
341 E. PARKER ROAD — 79 79 83
MORGANTON 28655
U OF TEXAS — 704 433-0225

PETERS, PETER DEMJANTSCHUK — GP /EM AC
1115 KATHERINE ST. — 40 74 78
VALDESE 28690
U OF LATIVA — 704 874-0519

PLYLER, EDWARD THURMAN — FP AC
2203 S. STERLING ST. — 81 82 85
MORGANTON 28655
U OF NC — 704 437-4211

POPE, THOMAS DAVID — OBG AC
403 S. KING STREET — 72 72 80
MORGANTON 28655
BAYLOR — 704 433-4661

POWELL, KENNETH ALTON — FP AC
P. O. BOX 330 — 60 60 63
RUTHERFORD COLLEGE 28671
BOWMAN GRAY — 704 874-2107

RAYNOR, LEIGHTON ALVIN — OPH AC
335 E. PARKER RD. — 77 79 83
MORGANTON 28655
U OF NC — 704 433-6220

REDDY, SREENIVAS MADDURI — IM /ON AC
PO BOX 726 — 75 75 85
VALDESE 28690
OSMANIA MED COLL — 704 874-2921

RIGGS, MILLARD MCADOO — FP L/RT
105 WOODSWAY LANE — 43 47 47
MORGANTON 28655
DUKE — 704 433-1585

SHAH-KHAN, SARDAR MAHMOOD — IM /CD AC
303 COLLEGE STREET — 61 70 71
MORGANTON 28655
OSMANIA MED COLL — 704 437-4261

SIMMONS, CHARLES NUMA — R AC
P. O. BOX 271 — 55 55 79
RUTHERFORD COLLEGE 28671
MED U OF SC — 704 879-9541

SPIGGLE, JOHN ALEXANDER — U AC
500 E. PARKER ROAD — 69 69 77
MORGANTON 28655
U OF TENNESSEE — 704 433-5141

STEELE, WALTER FRANKLIN — GS /TS AC
VALDESE GENERAL HOSPITAL — 66 66 74
VALDESE 28690
U OF NC — 704 874-3160

SUH, SANG HYON — GS AC
P. O. BOX 266 — 56 56 75
MORGANTON 28655
YONSEI U — 704 433-2235

THOMAS, JAMES JOSEPH — PD AC
100 MEDICAL HEIGHTS DR. — 56 63 65
MORGANTON 28655
U OF ILLINOIS — 704 433-4484

VERNON, JAMES TAYLOR — P AC
P. O. BOX 1139 — 45 45 4
MORGANTON 28655
WASHINGTON U — 704 437-464

WELLBORN, WILLIAM REVERE, JR. — OBG L/R
300 AVERY AVENUE — 42 46 5
MORGANTON 28655
TULANE U — 704 437-192

WHITE, EMMETT ROYCE — TR /R AC
BOX 10 — 54 54 6
RUTHERFORD COLLEGE 28671
BOWMAN GRAY — 704 879-954

WILLIS, LARRY FRANKLIN — OPH AC
335 E. PARKER ROAD — 68 69 7
MORGANTON 28655
MED COLL OF GA — 704 433-622

WILSON, LAWRENCE STEVEN — U AC
VALDESE DOCTORS' CLINIC — 77 78 8
P. O. BOX 700
VALDESE 28690
SYRACUSE — 704 874-489

WITHERS, ABNER CARR — FP AC
BOX 38 — 62 62 6
DREXEL 28619
U OF NC — 704 437-369

13. CABARRUS COMPONENT SOCIETY

OFFICERS—**President:** Vincent L. Keipper, M.D., 56 Ardsley Ave., Concord 28025 (704 782-1101)
Secretary: L. Allan Dobson, M.D., PO Box 1058, Mt. Pleasant 28125 (704 436-6521)

AREY, JOHN VINCENT — GYN AC
1054 BURRAGE ROAD, N. E. — 46 46 51
CONCORD 28025
HARVARD — 704 788-4151

BAKER, LINNY MARSHALL — PD /A AC
40 ARDSLEY AVENUE, N.E. — 60 60 64
CONCORD 28025
DUKE — 704 782-1918

BARNHARDT, ALBERT EARL — GP L/RT
2100 S. MAIN ST., #57 — 33 36 41
KANNAPOLIS 28081
U OF MARYLAND — 704 938-4388

BARRINGER, ARCHIBALD LIPE — FP L/RT
BOX 278 — 36 37 44
MOUNT PLEASANT 28124
TEMPLE U — 704 436-9929

BEAVER, ROBERT HOWELL — ORS AC
109 COUNTRY CLUB DR. — 73 73 83
CONCORD 28025
U OF TENNESSEE — 704 786-5122

BENBOW, JOHN MILLER — PD AC
40 ARDSLEY AVENUE, N.E. — 73 75 76
CONCORD 28025
DUKE — 704 786-1144

BLUM, JEFFREY CLARK — DR /IM AC
130 LAKE CONCORD ROAD, NE — 73 77 80
P. O. BOX 3345
CONCORD 28025
U OF MARYLAND — 704 788-4130

BOBBITT, JAMES DANIEL — OPH AC
33 LAKE CONCORD ROAD, N.E. — 69 74 77
CONCORD 28025
WEST VA U — 704 786-2015

BROWN, JAMES WALTER, JR. — OTO /HNS L/RT
633 GRANDVIEW DR., NE — 41 49 52
CONCORD 28025
DUKE — 704 786-3174

BURCHFIELD, WILLIAM JOHN — OPH AC
500 LAKE CONCORD RD., NE — 67 67 73
CONCORD 28025
U OF MICHIGAN — 704 782-1127

BURKE, DAVID JOSEPH — ORS AC
528 LAKE CONCORD ROAD, N. E. — 67 68 75
PO BOX 1606
CONCORD 28025
U OF IOWA — 704 788-3155

CARROLL, CHARLES FISHER, JR. — PTH AC
CABARRUS MEMORIAL HOSPITAL — 53 56 59
CONCORD 28025
U OF MARYLAND — 704 788-5987

CHALFANT, WILLIAM PAXSON — GS /CDS AC
56 LAKE CONCORD ROAD, N.E. — 66 66 73
CONCORD 28025
GEO WASHINGTON U — 704 786-1104

CHIKES, PETER GEORGE — OTO AC
34 ARDSLEY AVE., NE — 72 72 74
CONCORD 28025
U OF NC — 704 782-2166

COLLINS, DAVID LEONARD — GS AC
48 ARDSLEY AVE. NE — 54 54 62
CONCORD 28025
HARVARD — 704 786-1108

COOKE, JAMES HARBIN, JR. — IM AC
130 LAKE CONCORD RD. — 76 79 81
CONCORD 28025
DUKE — 704 782-3114

CORRELL, EARL EUGENE — GP AC
KANNAPOLIS MEDICAL CLINIC — 46 47 51
KANNAPOLIS 28081
U OF TENNESSEE — 704 933-2101

COTTRELL, WILLIAM MILNES — AN AC
758 WILLIAMSBURG DR. — 75 78 79
CONCORD 28025
EMORY U — 704 786-2111

CRAVEN, FREDERICK THORNS — GP L/RT
P. O. BOX 185 — 38 38 40
CONCORD 28025
NEW YORK U — 704 782-2710

CROOK, JOHN NEWMAN — GS /CDS AC
56 LAKE CONCORD ROAD — 66 66 74
CONCORD 28025
DUKE — 704 786-1104

CROSLAND, DAVID BAILEY — OBG AC
1054 BURRAGE ROAD, N. E. — 58 58 64
CONCORD 28025
U OF NC — 704 788-4151

DOBSON, LOLO ALLEN, JR. — FP AC
115 COOK ST. — 80 81 8
PO BOX 1058
MT. PLEASANT 28124
BOWMAN GRAY — 704 436-652

ENGSTROM, GEORGE ALFRED — PD AC
40 ARDSLEY AVENUE, N.E. — 59 59 6
CONCORD 28025
DUKE — 704 786-114

ERNST, HENRY EDWIN — IM L/RT
167 INGLESIDE DRIVE, S.E. — 43 47 4
CONCORD 28025
MED COLL OF VA — 704 782-096

FLOWE, BENJAMIN HUGH — GS /TS AC
56 LAKE CONCORD ROAD, N.E. — 49 50 5
CONCORD 28025
DUKE — 704 786-110

†FLOYD, WILLIAM RUSSEL — GS L
P. O. BOX 5347 — 29 38 3
DECEASED-12-15-86
SPARTANBURG, SC 29304
JEFFERSON — 803 583-473

FORTNEY, SIDNEY RAY — IM /END AC
68 LAKE CONCORD ROAD, N.E. — 63 63 7
CONCORD 28025
DUKE — 704 782-313

FURR, CARL AUGUSTUS, JR. — OBG AC
1054 BURRAGE ROAD, N. E. — 58 58 6
CONCORD 28025
U OF NC — 704 788-415

GABLE, RONALD SELMAN — OPH AC
33 LAKE CONCORD ROAD, N.E. — 65 65 8
CONCORD 28025
MED COLL OF GA — 704 786-201

GALLAGHER, KATHLEEN A. — DR AC
130 LAKE CONCORD RD. — 76 76 8
P. O. BOX 3345
CONCORD 28025
U OF NC — 704 786-021

GERDES, JOSEPH JOHN — DR AC
1648 PROVIDENCE RD. — 70 71 7
CHARLOTTE 28207
GEORGETOWN U — 704 786-021

13. CABARRUS COMPONENT SOCIETY (Continued)

AMMONDS, ROBERT EUGENE OTO /PS AC 58 61 66
113 COUNTRY CLUB DR.
CONCORD 28025
MED COLL OF GA 704 788-2154

AMRICK, LADD WATTS, JR. IM /NM AC 46 46 46
68 LAKE CONCORD ROAD, N.E.
CONCORD 28025
BOWMAN GRAY 704 782-3135

ARPER, DAVID KEITH OPH AC 81 81 85
500 LAKE CONCORD RD., NE
CONCORD 28025
U OF NC 704 782-1127

AWKINS, BARRY FUGH IM L/RT 44 51 52
PO BOX 2958
CONCORD 28025
U OF VIRGINIA 704 782-1101

ENRY, HECTOR HIMEL, II U /PD AC 65 65 70
102 LAKE CONCORD ROAD, N.E.
CONCORD 28025
TULANE U 704 786-5133

UGHES, LYNN ALLEN OTO AC 68 71 73
11 ARDSLEY AVENUE, N. E.
CONCORD 28025
U OF OKLAHOMA 704 788-1103

ENKINS, WANDA LOUISE OBG AC 79 83 83
211 LEPHILLIP COURT
CONCORD 28025
U OF CINCINNATI 704 786-1115

ONES, CLAYTON JOE GYN AC 52 58 59
107 COUNTRY CLUB DRIVE
CONCORD 28025
U OF TENNESSEE 704 786-7158

ABLE, KELVIN DUANE AM /OM AC 53 54 84
927 BURRAGE ROAD
CONCORD, ND 28025
BOWMAN GRAY 704 788-5110

ALDY, PATRICIA MARIE FP AC 80 80 77
P. O. BOX 1058
MOUNT PLEASANT 28124
BOWMAN GRAY 704 436-6521

EEL, JAMES FRANKLIN, III IM AC 74 78 79
68 LAKE CONCORD ROAD, N.E.
CONCORD 28025
DUKE 704 782-3135

EIPPER, VINCENT LEE MCCALLA IM AC 73 77 77
56 ARDSLEY AVENUE, N. E.
CONCORD 28025
VANDERBILT U 704 782-1101

ELLING, DOUGLAS GEORGE, JR. IM /PUD AC 72 74 75
68 LAKE CONCORD ROAD, N. E.
CONCORD 28025
HARVARD 704 782-3135

NEEDLER, WILLIAM HARDING IM L 26 30 47
C/O MR. & MRS. I.B. HUDSON
2105 BYRD ST.
RALEIGH 27608
U OF PENN 704 782-3236

ILES, GEORGE WELCH GS AC 44 44 48
306 PROFESSIONAL BUILDING
KANNAPOLIS 28081
DUKE 704 932-4169

OCKHART, DAVID ARMISTEAD PD AC 51 53 54
40 ARDSLEY AVENUE, N.E.
CONCORD 28025
DUKE 704 786-1144

OFTUS, JAMES MORGAN, JR. ORS AC 74 79 79
PO BOX 1606
CONCORD 28026
GEORGETOWN U 704 788-3155

LONG, FRANK EDWARD OBG AC 75 75 79
1054 BURRAGE ROAD, N. E.
CONCORD 28025
U OF MARYLAND 704 788-4151

LONG, THOMAS THERON, III GE /IM AC 66 66 75
920 N. CHURCH STREET
CONCORD 28025
BOWMAN GRAY 704 788-4186

MALONE, JOHN HUGH, JR. IM AC 60 60 67
56 ARDSLEY AVENUE, N.E.
CONCORD 28025
DUKE 704 782-1101

MCMURRY, DAVID WILLIS IM AC 82 83 80
130 LAKE CONCORD ROAD
CONCORD 28025
U OF NC 704 782-3114

MCWHORTER, ROBERT LIGON IM AC 47 47 54
68 LAKE CONCORD ROAD, N.E.
CONCORD 28025
DUKE 704 782-3135

MILLER, HAROLD MELTON EM /FP AC 72 73 85
4367 WEDDINGTON RD.
CONCORD 28025
U OF CA-IRVINE 704 786-2111

MONROE, GEORGE CLARKE, III IM AC 75 75 79
470 LAKE CONCORD RD.
CONCORD 28025
BAYLOR 704 786-7122

MONROE, LANCE TRUMAN OBG /OBS L 32 36 38
476 CAMROSE CIRCLE, NE
CONCORD 28025
NEW YORK U 704 782-3717

MORRIS, RAE HENDERSON GP L/RT 29 29 32
111 LOUISE DRIVE, S.E.
CONCORD 28025
JEFFERSON 704 782-4918

NANCE, FREDERICK LEE, JR. GP AC 53 53 56
314 PROFESSIONAL BUILDING
KANNAPOLIS 28081
BOWMAN GRAY 704 932-0211

NICHOLS, SUSAN BETH OBG AC 76 81 82
1054 BURRAGE ROAD, NE
CONCORD 28025
U OF MISSOURI 704 788-4151

NORDAN, JOHN MCLEAN U AC 69 69 76
102 LAKE CONCORD ROAD, N.E.
CONCORD 28025
BOWMAN GRAY 704 786-5131

OTTENI, GERALD VINCENT DR AC 70 70 76
123 OVERBROOK DRIVE
CONCORD 28025
U OF VIRGINIA 704 786-2111

PANCOTTO, FRANK SALVATORE GE AC 75 76 81
920 N. CHURCH ST.
CONCORD 28025
CHICAGO MED SCH 704 788-4186

POWELL, THOMAS WILLIAM GS /CDS AC 74 74 84
48 ARDSLEY AVE. NE
CONCORD 28025
U OF NC 704 786-1108

PUCKETT, JAMES BUTLER IM /ON AC 74 74 85
68 LAKE CONCORD RD., NE
CONCORD 28025
U OF NC 704 782-3135

RANKIN, RICHARD BRANDON, JR. OPH AC 53 53 56
500 LAKE CONCORD RD., NE
CONCORD 28025
DUKE 704 782-1127

REEVES, WILLIAM JOHN PTH AC 58 58 65
CABARRUS MEM. HOSP.
CONCORD 28025
BOWMAN GRAY 704 786-2111

RILEY, DAVID LINDLEY DR AC 73 74 80
PO BOX 2870
P. O. BOX 3345
CONCORD 28025
MED COLL OF VA 704 786-0214

RITCHIE, HENRY JACKSON GP AC 57 57 65
865 CHURCH STREET, NORTH
CONCORD 28025
U OF NC 704 786-3181

ROSSER, GEORGE THOMAS R AC 62 66 67
1925 TRILLIUM LANE
CHARLOTTE 28211
U OF TENNESSEE 704 786-0214

SELLERS, FRANK BARKLEY ORS AC 59 59 66
PO BOX 1606
CONCORD 27026
BOWMAN GRAY 704 788-3155

SIKES, THOMAS EDWARD, JR. ORS AC 70 71 77
109 COUNTRY CLUB DR., NE
CONCORD 28025
MED COLL OF GA 704 786-5122

SUMNER, ROBERT GRIST IM /CD AC 59 65 66
68 LAKE CONCORD ROAD, N.E.
CONCORD 28025
CORNELL U 704 782-3135

SURRATT, ROBERT WALTER IM AC 78 79 81
56 ARDSLEY AVENUE, N.E.
CONCORD 28025
U OF NC 704 782-1101

SWAN, BILL JOE AN AC 54 60 60
776 WILLIAMSBURG DRIVE
CONCORD 28025
U OF TENNESSEE 704 782-7638

TOMLIN, EDWIN MERRILL U AC 46 56 57
102 LAKE CONCORD ROAD, N.E.
CONCORD 28025
U OF TENNESSEE 704 786-5131

TUTTLE, MARLER SLATE, SR. FP L 38 38 40
134 S. MAIN STREET
KANNAPOLIS 28081
TEMPLE U 704 932-7016

WASSEL, JOHN JOSEPH ORS AC 74 81 82
PO BOX 1606
CONCORD 28026
GEORGETOWN U 704 788-3155

WHEATLEY, JAMES WALTER OPH AC 76 76 80
500 LAKE CONCORD RD., NE
CONCORD 28025
U OF MARYLAND 704 782-1127

WHITAKER, DONALD NASH, JR. CD AC 75 75 81
140 LECLINE DRIVE, NE
CONCORD 28025
BOWMAN GRAY 704 788-3367

YAP, ELSA DUMAUG PTH AC 63 74 76
CABARRUS MEMORIAL HOSPITAL
CONCORD 28025
CEBU INST OF MED 704 788-5987

ZELLNER, ERIC EUGENE FP /EM AC 74 74 80
103 COUNTRY CLUB DR.
CONCORD 28025
PENN STATE U 704 788-1140

14. CALDWELL COMPONENT SOCIETY

)FFICERS—President: Richard F. Curtis, M.D., PO Box 659, Lenoir 28645 (704 754-8421)
Secretary: Westell C. Phelan, M.D., 401 Mulberry St., S.W. #111, Lenoir 28645 (704 754-2283)

ELK, ROBERT SAMUEL IM /CD AC 69 69 73
322 MULBERRY ST. SW
PO BOX 1020
LENOIR 28645
MED U OF SC 704 758-5544

BOWEN, JOHN HENRY FP /GP AC 80 82 84
912 CONNELLY SPRINGS ROAD
P. O. BOX 1014
LENOIR 28645
U OF NC 704 728-8224

CARPENTER,KENNETH C. GP AC 47 48 50
P. O. BOX 699
LENOIR 28645
BOWMAN GRAY 704 754-7861

14. CALDWELL COMPONENT SOCIETY (Continued)

CARSWELL, JANE TRIPLETT FP AC
P. O. BOX 960 58 61 61
LENOIR 28645
MED COLL OF VA 704 754-0541

CURTIS, RICHARD FRANKLIN R /NM AC
PO BOX 659 67 67 83
LENOIR 28645
MED U OF SC 704 754-8421

DARSIE, JAMES LEIGH OTO AC
MULBERRY MEDICAL PARK 66 66 79
LENOIR 28645
BAYLOR 704 754-2464

DILL, DAVID LEE DR AC
203 CEDAR ROCK EST. DR. 72 73 77
LENOIR 28645
MED COLL OF GA 704 754-2283

FAIL, PHILIP JACKSON GP AC
913 HARPER AVENUE, S.W. 59 60 60
LENOIR 28645
MED U OF SC 704 758-2353

GRIFFIN, JOSEPH LAIRD OBG AC
P. O. BOX 2640 72 73 80
LENOIR 28645
MED COLL OF GA 704 758-2300

GUERRA, MARC FRANCIS FP AC
912 CONNELLY SPRINGS RD. 80 80 85
LENOIR 28645
ST U OF NY-BUFF 704 728-8224

HAIRFIELD, THEODORE VINCENT GP AC
328 MULBERRY ST., SW 54 54 62
LENOIR 28645
BOWMAN GRAY 704 754-3329

HANCOCK, GEORGE MARVIN GS AC
401 MULBERRY ST. SW, STE. 101 61 61 76
LENOIR 28645
VANDERBILT U 704 758-5501

HICKMAN, HARRY STUART PD L
623 MAIN STREET, S.E. 38 40 42
HUDSON 28638
DUKE 704 728-8484

JONES, MARTIN E. GP AC
CHURCH BUILDING 43 43 73
GRANITE FALLS 28630
DUKE 704 396-1112

LORE, RALPH ELI GS L/RT
306 PENNTON AVENUE, S.W. 33 33 37
LENOIR 28645
RUSH MED COLL 704 754-7356

LUTZ, CHARLES LARRY IM /GE AC
P. O. BOX 1020 70 70 74
LENOIR 28645
TULANE U 704 758-5544

MAULL, JOHN M. IM AC
PO BOX 1020 81 81 87
LENOIR 28645
EMORY U 704 758-5544

MCCORMICK, JOHN THOMAS ORS AC
401 MULBERRY ST. SW. STE. 103 74 75 80
LENOIR 28645
EMORY U 704 758-7091

MCNEILL, DONALD DRAKE, JR. PTH /CLP AC
P. O. DRAWER 680 65 65 72
LENOIR 28645
U OF NC 704 754-7063

METZGER, GEORGE ANDREW IM /NEP AC
322 MULBERRY ST., SW 72 74 78
PO BOX 1020
LENOIR 28645
U OF MARYLAND 704 758-5544

MILLSAPS, DAVID MCIVER PD AC
226-H MORGANTON BOULEVARD 77 79 80
LENOIR 28645
DUKE 704 758-5111

MORGAN, NANCY ELAINE FP AC
401 MULBERRY ST., SW, STE. 200 79 81 84
LENOIR 28645
OHIO STATE U 704 754-0707

MOSS, PAUL N. GP AC
541 MAIN ST. 54 54 55
HUDSON 28638
BOWMAN GRAY 704 728-3551

NEWMAN, ROBERT HENRY DR AC
PO BOX 659 76 76 81
LENOIR 28645
INDIANA U 704 754-2283

OLIVER, FRANCIS THEODORE AN /PH AC
217 MT. CIRCLE DR. 53 54 85
LENOIR 28645
ST U OF NY-BUFF 704 754-8421

PHELAN, WESTELL C. DR AC
PO BOX 659 76 77 86
401 MULBERRY ST. SW STE. 111
LENOIR 28645
CREIGHTON U 704 754-2283

ROACH, ROBERT BURCHELL GS AC
401 MULBERRY ST. SW, STE.101 43 43 51
LENOIR 28645
TEMPLE U 704 758-5501

ROGERS, ROBERT LEE, JR OBG AC
P. O. BOX 2640 57 63 64
LENOIR 28645
MED COLL OF GA 704 758-2309

SCHEIL, CHARLES PHILIP FP A
P. O. BOX 960 58 58
LENOIR 28645
DUKE 704 754-05

SHULL, LONNIE NEWELL, JR. GS A
401 MULBERRY ST. SW, STE. 101 69 69
LENOIR 28645
MED U OF SC 704 758-55

SNOW, SIDNEY LEWIS U A
328 MULBERRY STREET, S.W. 63 78
LENOIR 28645
U OF OTTAWA 704 754-21

STALHEIM, RODNEY MARTIN IM /CD A
322 MULBERRY ST., SW 71 72
PO BOX 1020
LENOIR 28645
MED U OF SC 704 758-55

THOMPSON, FREDERICK A. IM /CD A
322 MULBERRY ST., SW 46 47
PO BOX 1020
LENOIR 28645
DUKE 704 758-55

THOMPSON, OTIS RICHARD, JR. IM /CD A
322 MULBERRY ST., SW 53 53
PO BOX 1020
LENOIR 28645
BOWMAN GRAY 704 758-55

TILLEY, PAUL DONALD GP A
P. O. BOX 5607 59 59
LENOIR 28645
BOWMAN GRAY 704 758-23

TROUTMAN, BAXTER SUTTLES GP L/R
521 MT. VIEW ST. 36 36
LENOIR 28645
U OF MARYLAND

TYE, JOHN GAROLD OPH A
401 MULBERRY ST., SW. 79 80
LENOIR 28645
U OF CINCINNATI 704 754-05

WALTON, CAREY JAMES, JR. IM /GE L/R
P. O. BOX 1020 55 55
322 MULBERRY ST., SW
LENOIR 28645
BOWMAN GRAY 704 758-55

ZEMP, CHARLES HERBERT PD A
226-H MORGANTON BOULEVARD 49 65
LENOIR 28645
MED U OF SC 704 758-51

16. CARTERET COMPONENT SOCIETY

OFFICERS—**President:** Charles F. Aquadro, M.D., 326 Front St., Beaufort 28516 (919 728-5141)
Secretary: Leon M. Morrison, M.D., 9 Medical Park, Morehead City 28557 (919 247-4297)

ADKINS, TROGLER FRANCIS OBG L/RT
ROUTE #4, BOX 301-B 36 46 46
NEWPORT 28570
DUKE 919 726-6662

AQUADRO, CHARLES FRASURE GP /OM AC
326 FRONT STREET 52 52 71
BEAUFORT 28516
U OF TENNESSEE 919 728-5141

BORDEN, RICHARD WINSTEAD GP AC
3108 ARENDELL ST. 53 53 70
MOREHEAD CITY 28557
DUKE 919 726-3127

BRADY, WALTER MORRIS FP AC
#5 MEDICAL PARK 51 52 53
MOREHEAD CITY 28557
MED COLL OF VA 919 726-8414

CLEVENGER, ALVA BEN PTH AS
107 BELLE AIR ST. 64 64 72
BEAUFORT 28516
U OF OKLAHOMA 919 728-2048

FALLS, DARRYL LEE OBG AC
#9 MEDICAL PARK 80 80 84
MOREHEAD CITY 28557
U OF NC 919 726-0107

FERRY, SENECA TAYLOR, II EM /FP AC
P. O. BOX 8 65 65 78
SMYRNA 28579
U OF MISSOURI 919 729-7831

FRESCA, VICTOR ATTILIO GP /R AS
ROUTE #2 37 37 74
OAK BLUFF AT BRANDYWINE BAY
MOREHEAD CITY 28557
LOYOLA U 919 726-5587

GAINEY, JOHN WHITE, JR. GP AC
P. O. DRAWER 97 55 55 57
MOREHEAD CITY 28557
U OF NC 919 726-6143

GARRISON, ROBERT WALTER U AC
15 MEDICAL PARK 76 77 82
MOREHEAD CITY 28557
CASE WESTERN RES 919 247-2101

HARKER, MARGARET NELSEN GP AC
68 69 74
P. O. DRAWER 897
MOREHEAD CITY 28557
GEO WASHINGTON U 919 247-3476

KEMPTON, LEO V. P A
710 ARENDELL ST. 50 51
PO BOX 3632
MOREHEAD CITY 28557
U OF WISCONSIN 919 247-61

MAJSTORAVICH, JOSEPH, JR. OPH A
P. O. BOX 1317 74 74
MOREHEAD CITY 28557
U OF NC 919 726-04

MORRISON, LEON MACMILLAN OBG A
9 MEDICAL PARK 75 76
MOREHEAD CITY 28557
U OF FLORIDA 919 247-42

OLIVER, GEORGE MOTLEY, JR. OBG A
6 MEDICAL PARK 70 71
MOREHEAD CITY 28557
U OF NC 919 726-80

PURUSHOTHAMAN, CHANDROTH V. CD /IM A
#4 MEDICAL PARK 65 67
MOREHEAD CITY 28557
CALICUT U 919 247-54

TEETER, ROBERT TENNANT OBG A
#9 MEDICAL PARK 74 74
MOREHEAD CITY 28557
U OF NC 919 726-01

16. CARTERET COMPONENT SOCIETY (Continued)

ALKER, WILLIAM THOMAS, JR. IM AC
#5 MEDICAL PARK 79 79 83
MOREHEAD CITY 28557
JOHNS HOPKINS 919 726-9091

AY, BRADY COLE GS AC
3 MEDICAL PARK 76 76 85
MOREHEAD CITY 28557
BOWMAN GRAY 919 726-1136

WAY, JOHN EDWARD GS L
#3 MEDICAL PARK 38 38 47
MOREHEAD CITY 28557
U OF MARYLAND 919 726-1136

WRAY, RICHARD HENRY, III TS /GS AC
15 MEDICAL PARK 68 68 76
MOREHEAD CITY 28557
U OF NC 919 247-2101

YURKO, JOHN EVANS GS AC
15 MEDICAL PARK 63 63 71
MOREHEAD CITY 28557
MED COLL OF VA 919 247-2101

ZETTL, MATTHEW LEE ORS AC
15 MEDICAL PARK 75 75 81
MOREHEAD CITY 28557
TULANE U 919 247-2101

18. CATAWBA COMPONENT SOCIETY

FFICERS—**President:** David E. Tart, M.D., 24 Second Ave., N.E., Hickory 28601 (704 328-6185)
Secretary: Robert B. Nieland, M.D., 24 2nd Ave., N.E., Hickory 28601 (704 328-2231)
Executive Secretary: Mrs. Margaret D. Lawing, 617 Gabriel Ave., Newton 28658 (704 464-2505)

BERNETHY, HENRY WALTER FP /IM AC
221 13TH AVE. PL. NW-FP 55 55 60
HICKORY 28601
U OF NC 704 322-5800

LEXANDER, MARGARET C. R AC
RT. #3, BOX 331, STE. 26A 81 82 87
FAIRGROVE PROF. BLDG.
HICKORY 28601
MED U OF SC 704 327-6342

ATES, PAUL KENNETH, JR. PD AC
FIRST PLAZA -- BOX 700 69 74 75
1985 TATE BOULEVARD, S.E.
HICKORY 28602
U OF LOUISVILLE 704 322-2550

AUER, JOHN MONTGOMERY PTH AC
ROUTE #2, BOX 197 76 76 81
CONOVER 28613
LA STATE U 704 322-3821

ELL, IRA EUGENE, JR. TR /R AC
CATAWBA MEMORIAL HOSPITAL 45 50 51
810 FAIRGROVE CHURCH RD.SE
HICKORY 28602
MED COLL OF GA 704 322-0856

SHOPRIC, ALICE OBG AC
1205 N. CENTER STREET 78 79 83
HICKORY 28601
MED U OF SC 704 328-2901

LANCHAT, TIMOTHY JOSEPH IM AC
11 13TH AVENUE, N. E. 74 74 78
HICKORY 28601
WEST VA U 704 322-3541

OOKER, JOHN PARKS, JR. DR AC
P. O. BOX 308 67 67 74
HICKORY 28601
MED U OF SC 704 322-2644

OONE, EDWARD EVERETT IM AC
ROUTE #2, BOX 199 71 71 77
CONOVER 28613
BOWMAN GRAY 704 322-1128

OYLES, LARRY WAYNE N /IM AC
420 N. CENTER ST. 70 70 76
HICKORY 28601
U OF NC 704 327-9869

OYLES, WAYNE FRANCIS FP AC
ROUTE #3, BOX 155 52 52 54
HICKORY 28601
WASHINGTON U 704 327-4745

ROOKS, THOMAS WILLIAM, III R /NM AC
521 THIRD AVENUE, N.W. 62 62 71
HICKORY 28601
MED COLL OF GA 704 322-2644

ROWN, PAUL EUGENE ORS AC
250 18TH ST. CIR. SE 69 69 75
HICKORY 28602
U OF NC 704 322-5172

YERLY, WESLEY GRIMES, JR. GS AC
24 SECOND AVENUE, N.E. 52 52 58
HICKORY 28601
HARVARD 704 328-2231

ALDWELL, LAWRENCE M. II GE /IM AC
P. O. BOX 849 71 71 77
NEWTON 28658
U OF NC 704 464-4550

ALDWELL, LAWRENCE MCCLURE,SR. GP L/RT
406 S. COLLEGE AVE. 32 32 34
NEWTON 28658
U OF PENN 704 464-2330

CAPOROSSI, PAUL VINCENT OBG AC
PO BOX 2227 65 70 75
HICKORY 28603
MED SCH-UMDNJ 704 322-4920

CHI, HONG YUP FP AC
105 N. MAIN AVENUE 66 66 71
NEWTON 28658
MED COLL OF VA 704 464-5424

CHRISTENSEN, HARVEY EARL GS /TS AC
ROUTE #2, BOX 190 60 61 72
CONOVER 28613
STANFORD U 704 322-9105

CLARKE, WILLIAM LOWE, JR FP L/RT
551 THIRD ST. NE 41 47 48
HICKORY 28601
EMORY U 704 322-1361

CLONINGER, CHARLES EDGAR FP L/RT
RT. #2, BOX 14DC 41 41 43
SHERRILLS FORD 28673
U OF MARYLAND 704 478-3155

COLEMAN, LESTER L., JR. FP AC
P. O. BOX 376 50 50 52
HILDEBRAN 28637
BOWMAN GRAY 704 397-3522

COOK, LELAND JAMES GS AC
420 N. CENTER ST. 79 80 85
HICKORY 28601
U OF KENTUCKY 704 327-9178

CUTCHIN, JOSEPH HENRY, JR. GP AC
P. O. BOX 67 42 43 43
SHERRILLS FORD 28673
DUKE 704 478-2431

DAVIS, JOHN WOODROW FP AC
24 SECOND AVENUE, N. E. 46 47 50
HICKORY 28601
JEFFERSON 704 328-2231

DE LA GARZA, CARLOS ARTURO FP AC
24 SECOND AVE., NE 76 78 85
HICKORY 28601
U OF COLORADO 704 328-2231

DEATON, HUGO L. GS /TS AC
420 N. CENTER STREET 57 58 64
HICKORY 28601
COLUMBIA U 704 327-9178

DEPERCZEL, JOHN LESLIE ORS /GP AC
521 11TH AVE. CIRCLE NW 72 73 81
HICKORY 28601
LOYOLA U 704 324-2800

DICKINSON, MICHAEL WRIGHT GS /CDS AC
420 N. CENTER STREET 75 75 81
HICKORY 28601
U OF VIRGINIA 704 327-9178

DILLON, DANIEL CHRISTIAN IM /GE AC
11 13TH AVENUE, N. E. 68 68 75
HICKORY 28601
INDIANA U 704 322-1068

DIXON, ROBERT ROSS PD AC
FIRST PLAZA -- BOX 700 68 68 75
1985 TATE BOULEVARD, S.E.
HICKORY 28601
BOWMAN GRAY 704 322-2550

EARL, JOHN KEITH FP AC
210 13TH AVE. PLACE, N.W. 72 73 77
HICKORY 28601
U OF OKLAHOMA 704 328-2941

ENNIS, GEORGE ELLIOTT IM /HEM AC
912 SECOND STREET, N. E. 58 58 65
HICKORY 28601
U OF NC 704 328-2381

ESPEY, DAN, JR. FP AC
24 SECOND AVE., NE 47 51 52
HICKORY 28601
U OF LOUISVILLE 704 327-4453

FAHL, JAMES COX GS AC
24 SECOND AVENUE, N. E. 48 48 72
HICKORY 28601
HARVARD 704 328-2231

FEWELL, JOSEPH EURANUS, JR. PS AC
420 N. CENTER STREET 74 79 84
HICKORY 28601
MED U OF SC 704 322-8380

FITZ, THOMAS EDMUNDS IM /CD L/RT
2133 9TH ST. NW 50 53 57
HICKORY 28601
DUKE 704 322-1066

FITZGERALD, DWIGHT MELVIN GS /TS AC
ROUTE #2, BOX 196 69 76 78
CONOVER 28613
U OF ILLINOIS 704 322-8485

FORSHEY, ALAN GRAY FP AC
21 EAST A STREET 78 79 83
NEWTON 28658
OHIO STATE U 704 465-3928

FOSTER, JOHN THOMAS OPH AC
P. O. BOX 2588 62 62 68
HICKORY 28603
DUKE 704 322-2050

FRIEDMAN, EDNA CHARNEY PD /AN L/RT
5161 COLLINS AVENUE, APT. 412 39 43 57
MIAMI BEACH, FL 33140
U OF ZURICH 305 864-2880

FROEDGE, JERRY KEITH PD AC
1985 TATE BOULEVARD, S.E. 69 70 75
HICKORY 28602
U OF LOUISVILLE 704 322-2550

GACHET, FRED SMITH, JR. GYN AC
1205 N. CENTER STREET 57 65 65
HICKORY 28601
JOHNS HOPKINS 704 328-2901

GAITHER, JAMES COMER IM AC
ROUTE #2, BOX 199 61 62 68
CONOVER 28658
WASHINGTON U 704 322-1128

GARDNER, WILLIAM RONALD GS /CDS AC
420 N. CENTER STREET 63 64 73
HICKORY 28601
U OF MIAMI 704 327-9178

GERRARD, EDWARD ROLLAND U AC
1202 N. CENTER STREET 67 67 75
HICKORY 28601
BAYLOR 704 322-4340

GILBERT, HENRY TUCKER DR AC
P. O. BOX 308 69 70 77
HICKORY 28601
MED COLL OF GA 704 322-2644

GOINS, JAMES ROBERT OBG AC
210 13TH AVENUE PLACE, NW 77 78 85
HICKORY 28601
U OF NC 704 322-3017

GOODIN, THOMAS ELLIOTT,III AN AC
610 FAIRGROVE CHURCH RD. 66 67 67
HICKORY 28610
U OF TENNESSEE 704 322-0870

18. CATAWBA COMPONENT SOCIETY (Continued)

GOODMAN, BENJAMIN WARREN FP AC
24 SECOND AVENUE, N. E. 51 54 54
HICKORY 28601
U OF TENNESSEE 704 328-2231

GREEN, KENNETH ERIC GP AC
4 BRENTWOOD LANE, SE 78 79 86
HICKORY 28602
U OF TORONTO 704 294-1116

GRIFFIN, HAROLD WALKER OPH L/RT
1610 10TH ST. DR. NW 23 31 32
HICKORY 28601
EMORY U 704 327-8526

GRIFFIN, RICHARD MADISON OPH AC
27 13TH AVENUE, N.E. 59 60 63
HICKORY 28601
EMORY U 704 322-6040

GRIGSBY, HARDIN BLAND GYN AC
P. O. BOX 310 55 65 66
CONOVER 28613
INDIANA U 704 328-8146

GUARINO, GUY JOSEPH PTH AC
ROUTE #2, BOX 197 57 67 67
CONOVER 28613
LA STATE U 704 322-3821

GUTTLER, SANFORD DENNIS FP AC
1 TRADE STREET 76 77 80
GRANITE FALLS 28630
TEMPLE U 704 396-3136

HANCOCK, MILLIE PITTS A /PD AC
221 - 13TH AVENUE PLACE, N.W. 62 65 67
HICKORY 28601
JOHNS HOPKINS 704'322-1275

HARLAN, STEVEN DANE R AC
P. O. BOX 308 76 76 81
HICKORY 28603
U OF MISSOURI 704 322-2644

HARRIS, JEFFREY DAVISON FP AC
HIGHWAY 127 NORTH 77 78 81
P. O. BOX 6050
HICKORY 28601
U OF CINCINNATI 704 495-8226

HARRIS, WILLIAM RIX OPH AC
P. O. BOX 2588 56 56 64
HICKORY 28603
U OF NC 704 322-2050

HART, ROBERT WILLIAM, III FP AC
221 13TH AVENUE PL., NW 65 66 67
HICKORY 28601
MED U OF SC 704 322-5800

HEARON, BRIAN PAUL CD /IM AC
1985 TATE BOULEVARD, SE 77 77 85
HICKORY 28601
U OF MISSISSIPPI 704 324-4804

HODGES, JAMES ROBINSON FP AC
210 13TH AVENUE PLACE, N.W. 72 72 79
HICKORY 28601
U OF MICHIGAN 704 328-2941

HUFFMAN, ALLEN WILLIAM, JR. OBG AC
1205 N. CENTER STREET 67 67 76
HICKORY 28601
U OF NC 704 328-2901

ISENHOWER, JOSEPH ANDREW FP AC
24 SECOND AVENUE, N.E. 54 54 55
HICKORY 28601
BOWMAN GRAY 704 328-2231

JAMES, JOHN CLAY GP AC
ROUTE #3, BOX 436 57 57 62
MAIDEN 28650
BOWMAN GRAY 704 428-9740

JOHNSON, ANDREW FINLEY GP AC
2402 SPRINGS ROAD, N.E. 65 67 67
HICKORY 28601
U OF TENNESSEE 704 256-2185

JOHNSON, THOMAS GARY DR AC
132 35TH AVE., NW 74 76 85
HICKORY 28601
MED U OF SC 704 327-6342

KELLER, TED STEVEN NS AC
420 N. CENTER ST. 76 76 85
HICKORY 28601
DUKE 704 327-4818

KESSLER, J. PATRICK ORS AC
912 SECOND ST., NE 78 79 87
HICKORY 28601
OHIO STATE U 704 324-2800

KIM, TONG SU P AC
612 THIRD AVENUE, NE 51 51 70
HICKORY 28601
SEOUL NATL U 704 324-9900

KING, HARRY LEE OTO /HNS AC
PO BOX 2186 74 74 80
HICKORY 28603
U OF VIRGINIA 704 322-5120

KING, WALTER LEE OPH AC
PO BOX 2186 67 67 72
HICKORY 28603
U OF VIRGINIA 704 322-5120

KURAD, JOSEPH WARD U AC
1202 N. CENTER STREET 60 67 67
HICKORY 28601
U OF MARYLAND 704 322-4340

LEFLER, WADE HAMPTON, JR. OPH AC
P. O. BOX 2588 63 63 72
HICKORY 28601
BOWMAN GRAY 704 322-2050

LEONARD, WALTER EVAN FP AC
130 27TH STREET, S.W. 53 53 54
HICKORY 28601
BOWMAN GRAY 704 322-1153

LONG, WILLIAM EVERETT FP AC
P. O. BOX 1239 72 72 76
CONOVER 28613
U OF NC 704 464-3821

LOVIN, VICKIE WEST OBG AC
PO BOX 2227 81 82 86
HICKORY 28603
BOWMAN GRAY 704 322-4920

LYNN, ARTHUR SIMONTON, JR. IM /CD AC
ROUTE #2, BOX 199 62 62 68
CONOVER 28613
U OF NC 704 322-1128

MACLAUCHLIN, WILLIAM THOMPSON FP AC
P. O. DRAWER 1239 41 46 47
CONOVER 28613
MED U OF SC 704 464-3821

MARCUS, RICHARD WM. N AC
600 FIRST PLAZA 79 79 86
1985 TATE BLDG. SE
HICKORY 28601
U OF TEXAS 704 328-5500

MCCLOSKEY, SCOTT MICHAEL NS AC
420 N. CENTER STREET 75 77 81
HICKORY 28601
U OF MARYLAND 704 327-9740

MCDONELL, CHARLES FRANKLIN,JR. OBG AC
ROUTE #13, BOX 24 68 68 74
HICKORY 28601
TULANE U 704 322-3017

MCDOUGAL, EMORY GARY GS AC
RT. #2, BOX 190 77 82 84
CONOVER 28613
U OF SOU ALA 704 322-9105

MICHAEL, DOUGLAS WORTH FP AC
PO BOX 1239 79 81 84
CONOVER 28613
JEFFERSON 704 464-3821

MIKUS, KEVIN PETER FP AC
PO BOX 1239 82 84 86
CONOVER 28613
WAYNE STATE U 704 464-3821

MILLER, JOEL BYRON OBG AC
P. O. DRAWER 38 74 74 80
HICKORY 28601
BOWMAN GRAY 704 322-4140

MORETZ, JOSEPH ALFRED,III ORS AC
250 18TH ST. CIRCLE, SE 72 73 81
HICKORY 28602
EMORY U 704 322-5172

MOREWITZ, NANCY D. N AC
420 N. CENTER ST. 81 82 87
HICKORY 28601
EASTERN VA 704 327-4419

NIELAND, ROBERT BRUCE FP AC
24 SECOND AVENUE, N. E. 69 70 76
HICKORY 28601
U OF IOWA 704 328-2231

O'CONNOR, ROBERT DARRELL OTO AC
FAIRGROVE CHURCH ROAD 60 67 6
P. O. DRAWER 2484
HICKORY 28601
MED COLL OF VA 704 322-372

OBERLIN, DELOY CHARLES AN /EM AC
ROUTE #3, BOX 690 76 78 8
NEWTON 28658
STANFORD U 704 322-607

ORLOWSKI, RICHARD ON /HEM AC
225 18TH ST. SE 78 83 8
P. O. BOX 3710
HICKORY 28603
WASHINGTON U 704 324-955

OWENS, FREDERICK THOMAS PUD /IM AC
912 SECOND STREET, N.E. 70 71 7
HICKORY 28601
MED COLL OF GA 704 322-826

OWSLEY, JAMES HAROLD R /NM AC
P. O. BOX 308 57 58 6
HICKORY 28601
U OF ALABAMA 704 322-264

PARKER, JAMES LEE PTH AC
850-H 8TH ST. NE 63 63 7
HICKORY 28601
U OF NC 704 322-382

PEELER, FORREST EDWARDS FP AC
ROUTE #3, BOX 436 50 51 5
MAIDEN 28650
MED COLL OF VA 704 428-244

PEELER, RON H. EM
FRYE REG. MED. CTR. 81 82 7
420 N. CENTER ST.
HICKORY 28601
BOWMAN GRAY 704 324-319

PEKMAN, WILLIAM MARTIN HS /ORS AC
250 18TH ST. CIRCLE, SE 78 79 8
HICKORY 28602
U OF CHICAGO 704 322-517

PETERS, STANLEY ORS AC
250 18TH ST. CIR. SE 64 64 7
HICKORY 28602
KING EDWARD COLL 704 322-517

PETERSON, ROBERT LIND OBG AC
210 13TH AVENUE PLACE, N.W. 71 72 7
HICKORY 28601
U OF WASHINGTON 704 322-301

PIERCE, ROBERT JAMES, JR. U AC
1202 N. CENTER STREET 64 64 7
HICKORY 28601
U OF NC 704 322-434

POLLOCK, JOSEPH JORDAN PUD /IM AC
912 SECOND ST., NE 58 60 8
HICKORY 28601
GEO WASHINGTON U 704 322-826

PRUITT, JERRY L. D AC
24 SECOND AVENUE, N.E. 71 71 7
HICKORY 28601
BOWMAN GRAY 704 328-618

REED, CHARLES NATHAN D /IM AC
24 SECOND AVE., NE 79 80 8
HICKORY 28601
U OF NC 704 328-618

RICE, JOHN SIDNEY D L/F
143 33RD AVENUE, NW 40 63 6
HICKORY 28601
OHIO STATE U 704 327-00

RILEY, WILLIAM JOSEPH GS AC
605 W. 25TH STREET 55 60 6
NEWTON 28658
MED COLL OF VA 704 464-53

ROBERTSON, KENT ALAN AN /IM AC
420 N. CENTER ST. 76 76 8
HICKORY 28601
LA STATE U 704 324-35

ROSS, JAMES MILLER FP A
P. O. BOX 490 63 65 6
CLAREMONT 28610
U OF TENNESSEE 704 459-73

RUDISILL, ELBERT ANDREW, JR. FP A
133 FIRST AVE., SE 77 77 8
HICKORY 28601
BOWMAN GRAY 704 322-59

18. CATAWBA COMPONENT SOCIETY (Continued)

ANTOSO, RUDY ADRIAN N AC
ROUTE #3, BOX 331 71 74 83
HICKORY 28601
PADJADJARAN U 704 324-4143

CHMITT, PHILIP JULIAN P /CHP AC
PO BOX 9149 80 83 85
HICKORY 28603
GEORGETOWN U 704 327-7888

CHULTEN, HERBERT JOHN ORS AC
912 SECOND ST. NE 70 70 79
HICKORY 28601
U OF MARYLAND 704 324-2800

EAGLE, LEE MARCUS, JR. FP AC
133 FIRST AVENUE, S.E. 57 57 61
HICKORY 28601
DUKE 704 322-5915

MS, WILLIAM LEONARD NS AC
420 N. CENTER ST. 79 80 85
HICKORY 28601
U OF KENTUCKY 704 324-9609

EES, LYNN BEECHER PD AC
THE CHILDHEALTH CENTER 75 75 73
1375 4TH ST. DR. NW
HICKORY 28601
BOWMAN GRAY 704 322-4453

AHLY, WALTER REX FP AC
24 SECOND AVE., NE 78 79 85
HICKORY 28601
U OF WASHINGTON 704 328-2231

EG, BRIAN DAVID CD /CD AC
1985 TATE BOULEVARD 78 79 86
HICKORY 28601
CASE WESTERN RES 704 324-4804

EVENS, ROBERT BRUCE AN AC
3430 5TH ST. DRIVE, NW 78 83 86
HICKORY 28601
U OF CINCINNATI 704 327-7443

EWART, DANIEL NIVEN,JR. FP L
925 4TH AVE. DR. NW 35 35 38
HICKORY 28601
U OF PENN 704 328-1212

EWART, DOUGLAS WAYNE IM /NEP AC
516 LAUREL WOOD CIRCLE, SE 78 79 84
PO BOX 1020
LENOIR 28645
PENN STATE U 704 758-5544

STEWART, ROY ALLEN OPH L
P. O. BOX 970 40 46 48
NEWTON 28658
EMORY U 704 464-0982

STUTESMAN, JAMES L. PM AC
343 SECOND ST. NW 83 83 87
HICKORY 28601
U OF TX-HOUSTON 704 322-1300

SZABO, JANET ROSE R AC
P. O. BOX 308 79 85 86
HICKORY 28603
U OF NC 704 322-2644

TART, DAVID E. D /IM AC
24 SECOND AVENUE, N.E. 74 74 79
HICKORY 28601
U OF NC 704 328-6185

TAYLOR, WILLIAM RILEY ON /IM AC
690 FAIRGROVE CHURCH ROAD 78 78 85
P. O. BOX 3710
HICKORY 28603
U OF ALABAMA 704 324-9550

THOMPSON, WILLIAM CECIL, III FP AC
210 13TH AVE. PL., NW 78 79 82
HICKORY 28601
WEST VA U 704 322-7170

THORNTON, JACK WALKER OTO /HNS AC
P. O. DRAWER 2484 64 64 71
HICKORY 28601
U OF MISSISSIPPI 704 322-3725

THORWARTH, WILLIAM T.,JR. DR /NM AC
CATAWBA RADIOLOGICAL ASSOC. 75 76 84
P. O. BOX 308
HICKORY 28603
DARTMOUTH U 704 322-2871

TRADO, CHARLES ELEMENDORF P /GP AC
IKERD BUILDING 59 59 72
612 THIRD AVE., NE
HICKORY 28601
U OF NC 704 324-9900

VOGEL, JOSEPH VINCENT PTH AC
ROUTE #2, BOX 197 77 82 85
CONOVER 28613
DUKE 704 322-3821

WARREN, THOMAS LARRY OBG AC
PO BOX 2227 63 63 71
HICKORY 28603
U OF ALABAMA 704 322-4920

WELCH, CARL LESTER FP AC
221 13TH AVE. PL. NW 65 68 68
HICKORY 28601
MED COLL OF GA 704 322-5800

WHALEY, JAMES DAVANT U L/RT
138-A S. BATTERY 25 25 36
CHARLESTON, SC 29401
MED U OF SC 803 722-9998

WILLIAMS, LARRY THOMAS AN AC
354 SIXTH ST., NW 79 81 86
HICKORY 28601
U OF NC 704 322-0870

WILLIAMS, RANDAL JAMES OPH AC
P. O. BOX 2588 69 69 78
HICKORY 28603
DUKE 704 322-2050

WILLIAMS, ROBERT CYRUS, JR. OTO AC
FAIRGROVE CHURCH ROAD 71 72 79
BOX 2484
HICKORY 28603
MED U OF SC 704 322-3725

WINFIELD, HEBER GREY, III ORS AC
250 18TH ST. CIRCLE, SE 70 70 76
HICKORY 28602
U OF NC 704 322-5172

WISE, JOHN EDNEY IM AC
1624 N. CENTER STREET 60 60 67
HICKORY 28601
U OF NC 704 328-2094

WOFFORD, BENJAMIN GP AC
105 N. MAIN AVENUE 66 66 80
NEWTON 28658
U OF TENNESSEE 704 464-3321

WOTRING, JAMES WILLIAM, JR. OBG AC
P. O. BOX 38 61 67 68
HICKORY 28601
MED COLL OF VA 704 322-4140

WRIGHT, ELIZABETH ANN N AC
420 N. CENTER ST. 67 68 85
HICKORY 28601
U OF KENTUCKY 704 327-4419

YOUNG, WILLIAM LEE, III FP AC
210 13TH AVENUE PLACE, N.W. 74 74 79
HICKORY 28601
U OF VIRGINIA 704 328-2941

19. CHATHAM COMPONENT SOCIETY

OFFICERS—**President:** Byron J. Hoffman, Jr., M.D., P.O. Box 689, Siler City 27344 (919 663-3360)
Secretary: John W. Sanders, M.D., P.O. Box 689, Siler City 27344 (919 663-3360)

ROWN, WALTER JOHN PH AC
79 TRUNDLE RDG.FEARRINGTON 33 36 80
PITTSBORO 27312
BERLIN U 919 933-9331

YKERS, JOHN REGINALD, JR. FP AC
P. O. BOX 565 60 60 78
422 N. IVY AVENUE
SILER CITY 27344
U OF NC 919 663-2931

HOFFMAN, BYRON JAY, JR. IM AC
421 N. HOLLY STREET 76 77 81
SILER CITY 27344
EMORY U 919 663-3360

HOLT, JAMES BEATTY FP AC
ROUTE #5, BOX 40 77 77 78
PITTSBORO 27312
U OF NC 919 542-3251

WHITE, FRANKLIN DELANO FP AC
P. O. BOX 567 59 59 61
SILER CITY 27344
U OF NC 919 663-2761

20. CHEROKEE (GRAHAM) COMPONENT SOCIETY

OFFICERS—**President:** Mario M. Seiglie, M.D., 505 Peachtree St., Murphy 28906
Secretary: Floyd E. Blaylock, M.D., Valley River Clinic, Andrews 28901 (704 321-4510)

LALOCK, FLOYD ESTON, JR. FP /GP AC
VALLEY RIVER CLINIC 51 53 54
ANDREWS 28901
U OF TENNESSEE 704 321-4510

ITCHELL, BRIAN P. IM AC
PO BOX 158 74 76 87
MURPHY 28906
U OF PITTSBURGH 704 837-2696

STEPHENS, JAMES EDWARD GP AC
P. O. BOX 516 60 61 61
ROBBINSVILLE 28771
MED COLL OF VA 704 479-3392

TURITTO, LOUIS ANTHONY GS AC
2 WHITAKER LANE 68 71 85
ANDREWS 28901
U OF BOLOGNA 704 321-5010

WELLS, HELEN LEWIS GP AC
503 PEACHTREE STREET 46 47 48
MURPHY 28906
BOWMAN GRAY 704 837-2515

21. CHOWAN-PERQUIMANS COMPONENT SOCIETY

OFFICERS—**President:** Edward G. Bond, M.D., Chowan Medical Center, Edenton 27932 (919 482-2116)
Secretary: David O. Wright, M.D., Chowan Medical Center, Edenton 27932 (919 482-2116)

BAKER, BERNIE BALLINGTON, SR. OBG AC
EDENTON OB-GYN CENTER,PA 65 65 72
P. O. BOX 990
EDENTON 27932
DUKE 919 782-7407

BAKER, MARVIN I. R /NM AC
PO BOX 1047 60 60 83
EDENTON 27932
U OF FLORIDA 919 482-8446

BLAKEMORE, WILLIAM STEPHEN OPH AC
101 MARK DR. 79 80 84
EDENTON 27932
ROYAL CO-IRELAND 919 482-7471

BOND, EDWARD GRIFFITH IM /CD AC
CHOWAN MEDICAL CENTER 48 48 56
EDENTON 27932
U OF VIRGINIA 919 482-2116

DEVINE, LEIBERT EARL FP AC
P. O. BOX 298 75 75 80
EDENTON 27932
OHIO STATE U 919 482-7774

FRANCIS, JOHN ARLIE OBG AC
PO BOX 990 71 71 85
EDENTON 27932
WEST VA U 919 482-7407

HASKETT, JOSEPH RAY, JR. IM AC
CHOWAN MEDICAL CENTER 76 76 82
EDENTON 27932
U OF NC 919 482-2116

LANE, ROBERT EARL FP AC
118 W. MARKET STREET 67 67 74
P. O. BOX 487
HERTFORD 27944
TULANE U 919 426-5711

PERRY, JOHN CHRISTOPHER FP AC
P. O. BOX 429 79 80 8
EDENTON 27932
U OF FLORIDA 919 482-211

POTOCKI, LANCE DEWITT FP AC
PO BOX 429 81 81 8
EDENTON 27932
U OF MARYLAND 919 482-211

VOIGT, WARD LANDIS GS AC
CHOWAN MEDICAL CENTER 63 63 7
EDENTON 27932
U OF NC 919 482-211

WRIGHT, DAVID ORLO FP AC
CHOWAN MEDICAL CENTER 58 58 6
EDENTON 27932
BOWMAN GRAY 919 482-211

23. CLEVELAND COMPONENT SOCIETY

OFFICERS—**President:** Numa R. Carter, M.D., 512 W. Dixon Blvd., Shelby 28150 (704 484-7540)
Secretary: Jess A. Powell, M.D., 201 Grover St., Shelby 28150 (704 487-3141)

ADAMS, CHARLES HUBERT FP AC
103 WATTERSON STREET 58 59 59
KINGS MOUNTAIN 28086
U OF VIRGINIA 704 739-3681

ANDERSON, DAVID DIXON ORS
P. O. BOX 313 54 54 00
MARS HILL 28754
BOWMAN GRAY 919 487-1177

BANKOV, ROBERT WILLIAM EM AC
519 MARGARET RD. 78 82 86
STATESVILLE 28677
U OF SOU ALA 704 872-3339

BARKER, DAVID BERT U AC
808 N. WASHINGTON ST. 71 71 80
SHELBY 28150
U OF TENNESSEE 704 484-0117

BARRIER, CECIL LEE, SR. GP AC
ROUTE #3, BOX 105 59 59 60
LAWNDALE 28090
U OF NC 704 538-7891

BARRINGER, MICHAEL LYNN GS AC
904 MEADOWBROOK LANE 76 76 84
SHELBY 28150
U OF NC 704 482-6359

BEUTEL, WILLIAM DEAN GS AC
801 W. KING ST. 79 82 86
KINGS MOUNTAIN 28086
U OF ILLINOIS 704 734-0221

BINION, GERALD RAY OBG AC
110 W. GROVER STREET 62 62 74
SHELBY 28150
U OF TEXAS-SW 704 487-5258

BLACKBURN, THOMAS REID DR AC
PO BOX 1148 65 65 75
SHELBY 28150
BOWMAN GRAY 704 487-3141

BOMBENGER, JAMES JOHN PUD /IM AC
ROUTE #3, BOX 774-B 73 74 84
CONNELLY SPRINGS 28612
U OF ILLINOIS 704 397-6147

BOWLES, RICHARD MORGAN PD AC
101 GROVER STREET 52 53 55
SHELBY 28150
DUKE 704 482-1435

BOWLING, RICHARD FRANKLIN GS AC
P. O. BOX 638 53 53 61
SHELBY 28150
BOWMAN GRAY 704 487-8591

BOYETTE, DOUGLAS RAY CD /IM AC
808 SCHENCK STREET 75 75 80
SHELBY 28150
BOWMAN GRAY 704 482-1482

BRIDGES, THOMAS HOWARD EM AC
P. O. BOX 1706 65 65 67
SHELBY 28150
U OF NC 704 487-3134

BRIGGS, DOUGLAS MERRILL FP AC
1198 WYKE ROAD 78 79 82
SHELBY 28150
DOWNSTATE ME CTR 704 487-1148

BURRUS, JAMES HENRY GYN AC
P. O. BOX 1256 57 57 64
SHELBY 28150
U OF NC 704 482-2486

CARTER, JOEL MILES TR AC
P. O. BOX 340 73 77 84
SHELBY 28150
U OF TENNESSEE 704 487-3144

CARTER, NUMA RICHARDSON, JR. FP AC
512 DIXON BOULEVARD 50 50 57
SHELBY 28150
BOWMAN GRAY 704 487-7540

CHEANEY, RUSSELL ALAN AN AC
300 GROVER ST. 82 85 86
SHELBY 28150
U OF LOUISVILLE 704 482-5716

CHEN, KEH-FANG OBG AC
604 W. KING ST. 68 73 87
KINGS MOUNTAIN 28086
TAIWAN U-TAIPEI 704 739-8059

CHEN, KEH-FANG OBG AC
604 W. KING ST. 68 72 78
KINGS MOUNTAIN 28086
TAIWAN U-TAIPEI 704 739-8059

CLONINGER, ROWELL CONNOR GS L/RT
309 WESTFIELD RD. 44 45 51
SHELBY 28150
U OF MARYLAND 704 487-8591

COLLINS, WARREN JAMES GYN AC
105 GROVER STREET 48 57 67
SHELBY 28150
DUKE 704 482-2486

CONDIE, SCOTT DOUGLAS FP AC
1198 WYKE ROAD 75 78 82
SHELBY 28150
U OF ILLINOIS 704 487-1148

CROW, JOHN BUREN FP AC
591 CROW ROAD 48 49 50
SHELBY 28150
BOWMAN GRAY 704 487-7052

CUENCA, NELIDA ALBA PD /PH AC
111 LARAN ROAD 57 57 75
JACKSONVILLE 28540
U OF CORDOBA

DAY, PHILIP MARK GP AC
198 LAKESIDE DR. 82 83 86
GROVER 28073
MICHIGAN ST U 704 937-7905

ELLISON, PAUL STRIBLING, JR. S
408-B LEWIS ST. 87 00 86
GREENVILLE 27834
EAST CAROLINA U 919 482-6217

ELLISON, THOMAS SCOTT S
2401 FAIRWAY DR. 87 00 8
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-18

EVANS, OTIS DRUELL, JR. OBG AC
110 W. GROVER STREET 51 52 5
SHELBY 28150
U OF MARYLAND 704 487-52

FERRELL, PAUL BRENT RHU /IM AC
808 SCHENCK ST. 75 75 8
SHELBY 28150
U OF NC 704 482-148

GANGOO, ABDUL RASHID ID AC
810 W. KING STREET 68 76 8
KINGS MOUNTAIN 28086
SRINAGAR MED SCH 704 739-894

GEBEL, EMILE LOUIS OPH AC
1413 N. LAFAYETTE STREET 62 62 6
SHELBY 28150
DUKE 704 482-676

GENTRY, JOHN BILLY PTH AC
307 S. POSTON STREET 59 59 6
SHELBY 28150
U OF NC 704 482-024

GILLIATT, CECIL LEE, JR., PD AC
101 GROVER STREET 62 63 6
SHELBY 28150
HARVARD 704 482-143

GOSSETT, ROBERT PETER U AC
1001 N. WASHINGTON ST. 77 80 8
SHELBY 28150
U TX-SAN ANTONIO 919 482-201

HAMRICK, JOHN CARL GS L
P. O. BOX 668 35 35 4
SHELBY 28150
U OF MARYLAND 704 487-513

HAMRICK, JOHN CARL, JR. ORS AC
110 W. GROVER STREET 67 67 7
SHELBY 28150
BOWMAN GRAY 704 487-117

HANNAH, FRANK THOMAS OPH AC
313 S. WASHINGTON STREET 64 64 7
SHELBY 28150
DUKE 704 482-069

HARDEMAN, RICHARD AUSTIN FP AC
616 E. MARION STREET 60 60 8
SHELBY 28150
EMORY U 704 487-633

HARRELL, WARREN LAMAR, JR. R AC
1237 BROOKWOOD DRIVE 58 67 6
SHELBY 28150
EMORY U 704 482-388

HARRIS, THOMAS REGINALD PUD /IM AC
808 SCHENCK STREET 55 56 5
SHELBY 28150
U OF TENNESSEE 704 482-148

23. CLEVELAND COMPONENT SOCIETY (Continued)

INTER, JOHN BALDWIN GS /GP L/RT 28 32 47
518 E. MARION STREET
SHELBY 28150
NEW YORK U 704 487-6022

JEJIKIAN, JIRAIR ALEXAN TS /GS AC 61 61 70
709 GROVER STREET
SHELBY 28150
AMER.U OF BEIRUT 704 482-8371

NES, CRAIG S. GS L 36 36 38
4051 GULFSHORE BLVD. N'PH-205
NAPLES, FL 33940
INDIANA U 813 261-5609

NES, ROBERT S.,JR.-BOBBY FP AC 81 81 79
113 GROVER STREET
SHELBY 28150
EAST CAROLINA U 704 487-5228

NES, ROBERT SPURGEON FP AC 54 54 55
113 GROVER STREET
SHELBY 28150
U OF NC 704 487-5228

LLY, JOHNSON HALL U AC 78 78 84
1306 VISTA DRIVE
SHELBY 28150
BOWMAN GRAY 704 482-2011

NDALL, BENJAMIN HORTON CD L/RT 29 29 31
315 WESTFIELD RD.
SHELBY 28150
U OF MARYLAND 704 487-7208

MPLEY, CHARLES GORDON, III OBG AC 62 62 70
P. O. BOX 1807
SHELBY 28150
BOWMAN GRAY

NEY, ROBERT GAFFNEY,III GS AC 81 82 80
309 N. LAFAYETTE ST.
SHELBY 28150
U OF NC 704 487-8591

NGLEY, CHARLES PITMAN, III IM AC 75 76 79
308 SCHENCK STREET
SHELBY 28150
U OF NC 919 482-1482

E, JOSEPH, III FP AC 63 64 65
711 W. MOUNTAIN STREET
KINGS MOUNTAIN 28086
MED U OF SC 704 739-5456

IDWIG, GARY KEITH PTH /FOP AC 72 73 82
104 BROOKDALE ROAD
SHELBY 28150
U OF MICHIGAN 704 487-3147

NGUM, GARY LIONELL ORS AC 67 67 78
202 E. GROVER ST.
SHELBY 28150
BOWMAN GRAY 704 482-7311

AYBIN, RICHARD MADDEN GP /HYP AC 46 46 52
ROUTE #2
LAWNDALE 28090
MED U OF SC 704 538-8532

AYSE, RAY SCOTT IM AC 76 79 80
707 W. KING STREET
KINGS MOUNTAIN 28086
BOWMAN GRAY 704 739-9776

CGILL, JOHN CHARLES FP AC 46 50 52
P. O. BOX 392
KINGS MOUNTAIN 28086
VANDERBILT U 704 739-3681

CKNIGHT, RODNEY LEONARD AN AC 55 55 56
P. O. BOX 957
SHELBY 28150
U OF NC 704 434-9671

MCMURRAY, CLARENCE MCCAIN IM AC 46 46 53
808 SCHENCK STREET
SHELBY 28150
BOWMAN GRAY 704 482-1482

MCMURRY, AVERY WILLIS GS AC 45 45 51
207 LEE STREET
SHELBY 28150
JEFFERSON 704 482-6359

MILAM, WILLIAM FREER PTH AC 66 66 79
PO BOX 1268
SHELBY 28150
OHIO STATE U 704 487-3147

MILLER, DONALD STUART ND /ON AC 62 62 78
1405-B N. LAFAYETTE STREET
SHELBY 26150
HARVARD 704 482-8936

MILLER, ROBERT MICHAEL FP AC 67 68 76
1198 WYKE ROAD
SHELBY 28150
U OF TENNESSEE 704 487-1148

MINUS, JOSEPH SHEPPARD PD AC 65 65 71
101 GROVER STREET
SHELBY 28150
DUKE 704 482-1435

MUENCH, LAURENCE WALTER AN AC 62 62 84
310 DOWNING DR.
KINGS MOUNTAIN 28086
WASHINGTON U 704 739-3601

NAMAN, CARL HAWKINS GS /CDS AC 67 68 75
1200 HARDIN DRIVE
SHELBY 28150
MED COLL OF GA 704 482-6359

PEARSON, LAWRENCE HAMILTON D AC 79 80 83
809 N. LAFAYETTE ST.
SHELBY 28150
U OF NC 704 484-0464

PENNY, LARUE DAVID, JR. PD AC 73 75 80
101 GROVER STREET
SHELBY 28150
MED U OF SC 704 482-1435

PLONK, GEORGE WEBB GS L/RT 44 45 53
902 CRESCENT CIRCLE
KINGS MOUNTAIN 28086
JEFFERSON 704 739-2272

POTTS, JAMES MARTIN GS /TS AC 73 73 79
809 N. LAFAYETTE STREET
SHELBY 28150
MED COLL OF GA 919 487-8591

POWELL, JESS AVERETTE,III DR AC 73 75 79
201 GROVER STREET
SHELBY 28150
U OF TENNESSEE 704 487-3141

REYNOLDS, JOHN LAURENCE AN AC 80 86 87
404 MELODY LANE
SHELBY 28150
AUTONOMA U 704 482-5716

ROBINSON, SAM GS /TS AC 53 65 66
106 EDGEMONT DRIVE
KINGS MOUNTAIN 28086
U OF TENNESSEE 704 739-4749

RUTLEDGE, JOHN HOYLE, III OBG AC 74 74 86
105 GROVER ST.
SHELBY 28150
U OF KENTUCKY 704 482-2486

SARAZEN, PAUL MARK, JR. PD AC 48 50 55
101 GROVER STREET
SHELBY 28150
DUKE 704 482-1435

SECREST, ALVIN JACKSON, JR. U AC 63 63 71
1001 N. WASHINGTON STREET
SHELBY 28150
BOWMAN GRAY 704 482-2011

SINCOX, FRANCIS JOHN, JR. FP AC 58 63 64
PO BOX 1309
KINGS MOUNTAIN 28086
EMORY U 704 739-3681

SPRAGINS, JOEL FRED GE /IM AC 64 64 73
808 N. SCHENCK STREET
SHELBY 28150
U OF ARKANSAS 704 482-1482

STALLINGS, MARTIN WADE PD AC 69 70 76
108 EDGEMONT DR.
KINGS MOUNTAIN 28086
U OF ALABAMA 704 739-2521

STIDHAM, GREGORY ALAN FP AC 83 84 86
1198 WYKE RD.
SHELBY 28150
MED COLL OF VA 704 487-1148

STORY, WILLIAM AUGUSTUS R /IM AC 58 66 67
201 GROVER STREET
SHELBY 28150
EMORY U 704 487-0003

SURRATT, WILSON FARRIS AN AC 83 85 86
507 COUNTRY CLUB ACRES
SHELBY 28150
MED COLL OF GA 704 482-5716

TOFFOLO, RUDOLF RONALD R AC 57 58 84
GOLD RUN CT., RT. 5, BOX 87
KINGS MOUNTAIN 28086
ST U OF NY-BUFF 704 739-3712

VAN FLEET, WILLIAM VERNON P /CHP AC 61 65 79
802 N. LAFAYETTE ST.
SHELBY 28150
GEO WASHINGTON U 704 482-7395

WALKER, JOSEPH EDWARDS FP /AI AC 60 62 63
EDWARD CLINIC
RT. #3, BOX 146
LAWNDALE 28090
DUKE 704 538-8616

WASHBURN, HARRILL GENE FP AC 58 59 63
P. O. BOX 815
BOILING SPRINGS 28017
BOWMAN GRAY 704 434-2281

WASHBURN, WILLARD WYAN GP /FP L/RT 43 43 47
P. O. BOX 795
BOILING SPRINGS 28017
JEFFERSON 704 434-7910

WEDDLE, RICHARD ANDREW GE /IM AC 81 81 86
808 SCHENCK ST.
SHELBY 28150
INDIANA U 704 482-1482

WILLIAMS, JACK DEAN OTO AC 65 65 73
209-B LEE ST.
PO BOX 1968
SHELBY 28150
DUKE 704 487-9088

ZUCKER, JOSEPH ORS AC 79 80 84
107 W. KING ST.
KINGS MOUNTAIN 28086
DALHOUSIE U 704 739-0151

24. COLUMBUS COMPONENT SOCIETY

FFICERS—**President:** Phillip M. Williford, M.D., P.O. Box 1249, Whiteville 28472 (919 642-8157)
Secretary: John D. Hodgson, M.D., P.O. Box 1249, Whiteville 28472

AREFOOT, WILLIAM FREDERICK GS L/RT 34 34 35
P. O. BOX 573
WHITEVILLE 28472
TULANE U 919 642-3256

AUCOM, SANDRA SASSER PD AC 82 83 87
RT. #7, BOX 34B
WHITEVILLE 28472
U OF NC 919 642-6244

BLACK, JOHN RILEY, JR. PH L 38 42 43
P. O. BOX 810
WHITEVILLE 28472
DUKE 919 642-8061

BULLOCK, THURMAN MONROE, JR. FP /A AC 61 61 63
PO BOX 465
CHADBOURN 28431
BOWMAN GRAY 919 654-5369

BUNN, DAVID GLENN GP AC 47 47 49
EAST MAIN STREET
WHITEVILLE 28472
U OF MARYLAND 919 642-2016

CARROLL, FRANCIS MURRAY FP /A AC 55 55 57
104 SEVENTH AVENUE
CHADBOURN 28431
BOWMAN GRAY 919 654-3143

24. COLUMBUS COMPONENT SOCIETY (Continued)

CONRAD, LARRY LEE EM AC
64 64 86
RR 1, BOX 129-G
HALLSBORO 28442
INDIANA U 919 642-9735

COTTLE, RONALD WADE FP AC
83 84 86
118 E. WALTER ST.
WHITEVILLE 28472
U OF NC 919 642-2706

DIMITRIOUS, ROBIN AN AC
66 77 81
P. O. BOX 364
WHITEVILLE 28472
EIN SHAMS U 919 642-8011

DONAYRE, LUIS ERNESTO GS /TS AC
59 67 68
144 JEFFERSON STREET
WHITEVILLE 28472
SAN MARCOS U 919 642-3136

FLOYD, ANDERSON GAYLE GP L/RT
37 37 39
302 N. THOMPSON STREET
WHITEVILLE 28472
MED U OF SC 919 642-2150

GLINSKI, RONALD PETER U /PTH AC
75 76 81
ROUTE #1, BOX 46A
WHITEVILLE 28472
U OF MICHIGAN 919 642-5832

GRUBB, STEPHEN DALE FP AC
75 76 79
PIREWAY RD.
PO BOX 675
TABOR CITY 28463
WASHINGTON U 919 653-2113

KINDSCHUH, PETER MICHAEL OBG AC
80 80 85
BALDWIN WOODS
WHITEVILLE 28472
LOYOLA U 919 642-6848

MUKAMAL, RONALD SASSON GS /ORS AC
64 65 73
333 JEFFERSON STREET
WHITEVILLE 28472
ST U OF NY-BUFF 919 642-2336

MUNROE, JOHN FRANCIS IM /END AC
60 60 68
BALDWIN WOODS, S.W.
P. O. BOX 1249
WHITEVILLE 28472
U OF NC 919 642-2230

PIECH, KENNETH STOWELL PTH AC
75 78 83
1211 PINKNEY ST.
WHITEVILLE 28472
DUKE 919 642-8011

SMITH, RONNIE DALE EM /GP AC
78 79 81
701 E. FIFTH ST.
TABOR CITY 28463
U OF NC

STANLEY, COVIA LEVANCE OBG AC
78 79 83
801-E POWELL BLVD.
WHITEVILLE 28472
ST U OF NY-BUFF 919 642-6022

STOUT, WILLIAM ALLEN FP AC
61 61 63
P. O. BOX 675
TABOR CITY 28463
BOWMAN GRAY 919 653-2112

THIGPEN, FRONIS RAY FP /PD AC
76 77 75
805 S. MADISON STREET
WHITEVILLE 28472
U OF NC 704 642-6121

TRAYLOR, HENRY WILLIAM, JR. IM /EM A
77 79
805 S. MADISON
WHITEVILLE 28472
GEORGETOWN U 919 642-61

WALTERS, HEZEKIAH GROVER, JR. GS A
48 48
711 N. THOMPSON STREET
WHITEVILLE 28472
U OF MARYLAND 919 642-32

WALTON, GEORGE BRITAIN, JR. R /NM A
56 56
P. O. BOX 345
CHADBOURN 28431
DUKE 919 642-80

WHEATLEY, SAMUEL NALLY OBG A
75 76
BALDWIN WOODS
WHITEVILLE 28472
U OF KENTUCKY 919 642-32

WILLIAMSON, ROSSIE MARSHALL GP L/
37 37
3004 WEDGEWOOD DR.
CEDAR CREEK VILLAGE
N. MYRTLE BEACH, SC 29582
U OF PENN 803 249-21

WILLIFORD, PHILLIP MABON IM A
81 82
P. O. BOX 1249
WHITEVILLE 28472
U OF NC 919 642-81

WYCHE, JOSEPH THOMAS FP L/
41 41
RT. #7, BOX 30
WHITEVILLE 28472
U OF PENN 919 642-27

25. CRAVEN-PAMLICO-JONES COMPONENT SOCIETY

OFFICERS—**President:** T. Reed Underhill, M.D., 800 Hospital Dr., New Bern 28560 (919 633-2712)
Secretary: Kenneth Wilkins, M.D., P.O. Box 2554, New Bern 28560 (919 633-5333)
Executive Secretary: Helen Harrell, P.O. Box 2157, Craven Co. Hospital, New Bern 28560 (919 633-8607)

AIKEN, HOVEY EUGENE, JR. PD AC
56 63 64
707 PROFESSIONAL DRIVE
NEW BERN 28560
MED U OF SC 919 633-2900

AKPELE, IGNATIUS ESE TS /VS AC
77 79 87
PO BOX 306
NEW BERN 28560
MEHARRY MED COLL 919 633-1688

ARMISTEAD, RAY BAXTER ORS AC
76 77 80
TRIANGLE PLAZA
P. O. BOX 1694
NEW BERN 28560
GEORGETOWN U 919 633-3256

ASHFORD, CHARLES H., JR. AC
62 00 70
800 HOSPITAL DRIVE
NEW BERN 28560
JOHNS HOPKINS

BAGGETT, JOHN ROBERT IM AC
56 56 63
702 NEWMAN ROAD
MCCARTHY SQUARE
NEW BERN 28560
U OF NC 919 633-5333

BALLARD, HARRY HAMPTON GS /CDS AC
71 76 82
800 HOSPITAL DR. STE. #6
NEW BERN 28560
WEST VA U 919 633-2081

BARDEN, GRAHAM ARTHUR, III PD AC
82 82 79
707 PROFESSIONAL DR.
NEW BERN 28560
DUKE 919 633-2900

BARDEN, GRAHAM ARTHUR, JR. PD AC
48 48 53
707 PROFESSIONAL DRIVE
NEW BERN 28560
DUKE 919 633-2900

BAREFOOT, VERNA YOUNG PH L
50 51 53
2504 OLD CHERRY POINT ROAD
NEW BERN 28560
GEO WASHINGTON U 919 637-5574

BECKWITH, GEORGE HUGHES CD /IM AC
71 71 76
PO BOX 2554
702 NEWMAN RD. MCCARTHY SQ.
NEW BERN 28560
U OF VIRGINIA 919 633-4046

BELL, RICHARD ALAN PD AC
80 80 84
3804 BUTLER ROAD
NEW BERN 28560
U OF NC 919 633-2900

BELL, WILLIAM HARRISON, JR. DR /NM AC
46 46 53
P. O. BOX 2065
NEW BERN 28560
CORNELL U 919 633-5057

BENDER, NEIL CARMICHAEL IM AC
63 63 68
P. O. BOX 68
POLLOCKSVILLE 28573
U OF NC 919 633-1010

BENNETT, JOHN JOE GP /OM AC
60 60 79
102 GIBBS ROAD
NEW BERN 28560
U OF MARYLAND 919 633-0709

BLACKERBY, JAMES GP L
32 32 66
1807 TRYON ROAD
NEW BERN 28560
U OF LOUISVILLE 919 637-3424

BLACKERBY, JAMES NICHOLAS GS AC
56 63 64
800 HOSPITAL DR.
NEW BERN 28560
U OF LOUISVILLE 919 633-2081

BLAIR, ROBERT GILLESPIE, JR. ORS AC
70 70 77
P. O. DRAWER 1694
TRIANGLE PLAZA
NEW BERN 28560
U OF NC 919 633-4477

BUFF, SAMUEL JOSEPH DR AC
77 79 83
P. O. BOX 2065
NEW BERN 28560
DUKE 919 633-5057

BURNETT, JOHN WESLEY, JR. FP AC
71 71 76
810 KENNEDY AVE.
NEW BERN 28560
MED COLL OF VA 919 633-1678

BUSTARD, VICTOR WILLIAM OBG /GYN AC
59 76 78
1912 NEUSE BOULEVARD
NEW BERN 28560
DALHOUSIE U 919 633-3339

CHANCE, JAMES KENNETH OPH AC
76 76 81
802 MCCARTHY BLVD.
NEW BERN 28560
BOWMAN GRAY 919 633-4183

COOPER, LYLE RAY IM A
80 81
PO BOX 2685
3 NEW BERN MEDICAL ARTS CTR.
NEW BERN 28560
U OF NC 919 638-40

DAVIDSON, ANDREW OPH A
69 69
802 MCCARTHY BLVD.
NEW BERN 28560
U OF NC 919 633-41

DAVIS, JUNIUS WEEKS, JR. PD /PH L/
46 46
201 ABNER NASH ROAD
NEW BERN 28560
MED U OF SC 919 633-41

DAVIS, MICHAEL LEE IM A
74 75
EASTERN CAROLINA INT.MED.
P. O. BOX 68
POLLOCKSVILLE 28573
WEST VA U 919 224-45

DEGRAW, MARTIN CRAWFORD FP A
81 84
810 KENNEDY AVE.
NEW BERN 28560
BOWMAN GRAY 919 633-16

DUFFY, CHARLES FP
30 30
607 POLLOCK STREET
NEW BERN 28560
JEFFERSON 919 637-20

DUNN, ERNEST CLINTON, JR. GP A
79 79
ROUTE #1, #41, TOPSAIL DRIVE
ORIENTAL 28571
U OF NC 919 249-10

GAGE, LAWRENCE E. IM /CD A
80 81
EASTERN CAROLINA IM, PA
PO BOX 68
POLLOCKSVILLE 28573
VANDERBILT U 919 224-45

GOODHALL-GUNN, PATRICIA AN A
54 55
PO BOX 983
NEW BERN 28560
U OF LIVERPOOL 919 633-61

GOODWIN, BONNIE JEANNE IM /ON A
77 83
PO BOX 68
POLLOCKSVILLE 28573
DARTMOUTH U 919 633-10

25. CRAVEN-PAMLICO-JONES COMPONENT SOCIETY (Continued)

ADY, RICHARD DWIGHT OTO /HNS AC
77 77 83
. O. BOX 2406
07 PROFESSIONAL DR.
EW BERN 28560
OF NC 919 638-2666

ECO, PETER PAUL D AC
67 68 74
. O. BOX 2908
914 NEUSE BLVD.
EW BERN 28561
ED SCH-UMDNJ 919 633-1817

EWAL, SATPAL KAUR TR AC
63 76 82
RAVEN COUNTY HOSPITAL
O BOX 5117
EW BERN 28560
C OF AMRITSAR 919 633-8730

ICE, ORMOND DREW GS AC
67 67 77
00 HOSPITAL DR. STE. #6
EW BERN 28560
OF NC 919 633-3557

HN, MICHAEL WAYNE OBG AC
82 82 86
01 MCCARTHY BLVD.
EW BERN 28560
A STATE U 919 633-3942

LL, WILLIAM JAMES, JR. OTO AC
77 80 83
. O. BOX 2406
EW BERN 28560
OF LOUISVILLE 919 638-2666

MMOND, ALFRED FRANKLIN, JR. GP L/RT
34 34 37
514 TRENT BOULEVARD
EW BERN 28560
EFFERSON 919 637-6066

LER, CARL JULIEN ORS AC
62 62 69
. O. DRAWER 1694
EW BERN 28560
ED U OF SC 919 633-3256

LMES, ROBERT PEEL, III IM AC
56 56 63
02 NEWMAN ROAD
CCARTHY SQUARE
EW BERN 28560
OF NC 919 633-5333

LYK, PETER ROMAN OPH AC
78 79 83
916 S. GLENBURNIE RD.
EW BERN 28560
UFTS U 919 638-1332

RNBAKE, EARL RODNEY, III IM AC
76 77 79
700 ST. DELIGHT CHURCH RD.
EW BERN 28560
OF PITTSBURGH 919 633-0363

DSON, RICHARD WOODARD FP AC
61 61 64
O BOX 729
AYBORO 28515
OF NC 919 745-3191

NT, WILLIAM BRYCE, JR. PUD /IM AC
53 53 76
. O. BOX 2157
EW BERN 28560
OWMAN GRAY 919 633-8608

CKSON, DONALD CHARLES R AC
54 55 73
. O. BOX 2065
EW BERN 28560
HEFFIELD U 919 633-5057

YNER, RONNIE STEPHEN OBG AC
76 76 81
631 WEDGEWOOD DRIVE
EW BERN 28560
OF NC 919 633-3942

NG, FRANCIS PARKER IM RT
46 46 53
10 WILSON POINT
EW BERN 28560
ARVARD 919 637-5411

NKEL, COOPER DAVE, III OPH AC
56 62 65
02 MCCARTHY BLVD.
EW BERN 28560
OF VIRGINIA 919 633-4183

TLE, HENRY REECE, JR. FP L/RT
51 53 53
00 HOSPITAL DRIVE
EW BERN 28560
ED COLL OF VA 919 637-6118

TLE, SUZANNE BROWN IM /CD AC
49 53 53
00 HOSPITAL DRIVE
EW BERN 28560
ED COLL OF VA 919 637-6118

ACDONALD, HENRY JOHN, JR. OTO AC
69 69 75
PO BOX 2406
707 PROFESSIONAL DR.
NEW BERN 28560
U OF NC

MAHANEY, JOHN PHILIP, JR. FP AC
71 74 76
810 KENNEDY AVE.
NEW BERN 28560
MED COLL OF VA 919 633-1678

MAIER, RUDOLPH JOSEPH N AC
63 63 85
721 PROFESSIONAL DR.
NEW BERN 28560
LOYOLA U 919 633-3744

MANLEY, JAMES JOSEPH FP /EM AC
78 80 84
P. O. BOX 2585
705 PROFESSIONAL DR.
NEW BERN 28561
MED SCH-UMDNJ 919 637-6194

MARTIN, DENNIS KEITH OBG AC
78 78 78
903 PINETREE DRIVE
NEW BERN 28560
U OF NC 919 633-4005

MAY, RONALD BRUCE PD /HEM AC
73 74 84
CRAVEN COUNTY HOSPITAL
P. O. BOX 1390
NEW BERN 28560
U OF PENN 919 633-4121

MCNEILL, MARY DAVIS FP /PD AC
56 59 64
P. O. BOX 719
HAVELOCK 28532
LA STATE U 919 447-3613

MCQUADE, JOHN FRANCIS, III CD AC
73 75 78
4511 GLOUCESTER DRIVE
NEW BERN 28560
YALE 919 633-1010

MILLNS, DALE THOMAS U AC
46 53 53
800 HOSPITAL DRIVE
NEW BERN 28560
CASE WESTERN RES 919 633-2712

MOELLER, GARLAND RADFORD RHU /IM AC
77 78 83
P. O. BOX 68
POLLOCKSVILLE 28573
DUKE 919 224-4591

MOELLER, MARK BOLTON ID /IM AC
77 81 82
P. O. BOX 68
POLLOCKSVILLE 28573
DARTMOUTH U 919 633-1010

MOELLER, WENDY PAULSON GE /IM AC
77 78 83
P. O. BOX 68
POLLOCKSVILLE 28573
DUKE 919 633-1010

MOORE, RONALD ALVIN IM /ON AC
72 72 76
702 NEWMAN ROAD
MCCARTHY SQUARE
NEW BERN 28560
U OF NC 919 633-5333

MORGAN, RICHARD EARL GS AC
73 73 78
5211 TRENTWOODS DR.
NEW BERN 28560
BOWMAN GRAY 919 633-2081

MYERS, JOSEPH S. GS AC
57 58 86
157 MALLARD LANE
DAYTONA BEACH, FL 32019
M C OF WISCONSIN

NASHICK, GEORGE HENRY GP AC
75 75 76
PO BOX 729
BAYBORO 28515
U OF CONNECTICUT 919 633-1616

O'DONNELL, ROBERT WILLIAM P AC
74 77 87
2407 GRACE AVE.
PO BOX 2587
NEW BERN 28560
U OF MARYLAND 919 633-4171

OLIVER, DAVID CLARK CD /IM AC
74 74 78
702 NEWMAN RD.
MCCARTHY SQUARE
NEW BERN 28560
BOWMAN GRAY 919 633-5333

OVERBY, JOSEPH RANDAL, JR. FP AC
71 71 76
810 KENNEDY AVE.
P. O. BOX 5409
NEW BERN 28560
BOWMAN GRAY 919 633-1678

PARKER, CHARLES LAWRENCE OBG /GYN AC
73 73 76
801 MCCARTHY BLVD.
NEW BERN 28560
INDIANA U 919 633-3942

POCOCK, DONALD ANDREW IM /ID AC
73 74 81
5003 TRENT WOODS DRIVE
NEW BERN 28560
CASE WESTERN RES 919 633-1010

PRESTON, RONALD ALLYN IM AC
70 70 76
P. O. BOX 68
POLLOCKSVILLE 28573
MED COLL OF VA 919 633-1010

RAWLS, WILLIAM OBG AC
66 66 72
801 MCCARTHY BLVD.
NEW BERN 28560
U OF NC 919 633-3942

REED, JAMES CROFT R AC
68 75 80
P. O. BOX 2065
NEW BERN 28560
U OF MIAMI 919 633-5057

REIDA, RONALD JACK EM /PD AC
67 67 84
4514 GREENVIEW RD.
NEW BERN 28560
U OF KANSAS 919 637-4016

RICHARDSON, ERNEST C., JR. GYN /OBS L
43 43 48
4001 TRENT PINES DR.
NEW BERN 28560
JEFFERSON 919 633-3942

SCHIESS, ROBERT JOHN, III NS AC
78 80 84
2713 NEUSE BOULEVARD
NEW BERN 28560
BOWMAN GRAY 919 633-6070

SCHNEE, CHARLES FREDERICK GS /FP AS
34 34 81
290 SHORELINE DRIVE
NEW BERN 28560
MCGILL U 919 638-2962

SINNING, MARK ALAN TS /CDS AC
78 79 87
800 HOSPITAL DR.
NEW BERN 28560
U OF KANSAS 919 638-8118

STONE, HARRY BENJAMIN, III OTO /A AC
65 65 73
709 PROFESSIONAL DR.
PO BOX 2406
NEW BERN 28560
DUKE 919 638-2666

TAYLOE, JOHN COTTEN, JR. ORS AC
60 60 66
P. O. DRAWER 2604
MEDICAL ARTS CENTER
NEW BERN 28560
U OF NC 919 633-1635

TINGA, JOHN HINNES OBG AC
75 75 81
903 PINE TREE DRIVE
NEW BERN 28560
BOWMAN GRAY 919 633-4005

TRULUCK, THOMAS BRIAN OBG AC
75 75 81
903 PINE TREE DRIVE
NEW BERN 28560
MED U OF SC 919 633-4005

UNDERHILL, THURLOW REED U AC
70 70 78
800 HOSPITAL DRIVE, STE. #4
NEW BERN 28560
U OF NC 919 633-2712

VANDERSEA, HAROLD MARK ORS AC
70 71 78
800 HOSPITAL DRIVE
NEW BERN 28560
ST U OF NY-BUFF 919 638-8113

WARREN, JOSEPH BENJAMIN GP AC
51 52 54
203 PINE ROAD
NEW BERN 28560
DUKE 919 637-5888

WERTMAN, MARK GRAHAM ORS AC
80 81 85
PO DRAWER 1694
TRIANGLE PLAZA
NEW BERN 28560
WEST VA U 919 637-4477

WILFONG, ROBERT FARRINGTON NS AC
67 67 76
2713 NEUSE BLVD.
NEW BERN 28560
DUKE 919 633-6070

WILKINS, KENNETH WORTH, JR. IM AC
80 81 84
702 NEWMAN ROAD
MCCARTHY SQUARE
NEW BERN 28560
U OF NC 919 633-5333

WINTERS, RICHARD RIZER WALKER PS AC
70 70 86
1425 GLENBURNIE RD.
NEW BERN 28560
ST LOUIS U 919 637-6800

26. CUMBERLAND COMPONENT SOCIETY

OFFICERS—**President:** Roy A. Weaver, M.D., 432 Brightwood Dr., Fayetteville 28303 (919 323-6149)
Secretary: Gerald L. Ellison, M.D., 495 Rayconda, Fayetteville 28304 (919 483-7400)

ALLEYNE, GRANT LIVINGSTONE OBG AC
70 74 77
P. O. BOX 64838
FAYETTEVILLE 28306
U OF WEST INDIES 919 323-2767

ATASSI, INAD BADREDDIN NS AC
72 75 81
101 ROBESON ST. STE. 410
FAYETTEVILLE 28301
DAMASCUS U 919 483-5050

AUL, CHRISTOPHER TAYLOR FP AC
77 80 85
4092 PROFESSIONAL DR.
HOPE MILLS 28348
WASHINGTON U 919 424-0123

BAGGETT, JOSEPH WOODROW OBG L
45 45 51
P. O. BOX 53514
FAYETTEVILLE 28305
U OF MARYLAND 919 485-1191

BARRY, WILLIAM EM /FP AC
56 56 57
3322 MELROSE ROAD
FAYETTEVILLE 28304
U OF NC 919 323-5880

BATTEN, HUBERT ELMORE R AC
51 53 53
CAPE FEAR VALLEY HOSPITAL
FAYETTEVILLE 28302
MED COLL OF VA 919 323-2012

BECKHAM, DAVID ROBERTSON AN AC
62 68 69
1762 METROMEDICAL DR.
FAYETTEVILLE 28302
MED U OF SC 919 323-5491

BEYER, ALFRED JAMES GS AC
67 67 82
521 BEAUMONT ROAD
FAYETTEVILLE 28304
CASE WESTERN RES 919 483-5031

BEYER, CATHERINE HERLIHY PD AC
67 67 85
1213 WALTER REED ROAD
FAYETTEVILLE 28305
CASE WESTERN RES

BINDER, GEORGE ARTHUR DR AC
73 74 84
401 LAKESHORE DR.
FAYETTEVILLE 28305
U OF ILLINOIS 919 484-4028

BLACKBURN, ROBERT ALFRED OTO /P AC
66 66 83
1262 OLIVER ST.
FAYETTEVILLE 28304
INDIANA U 919 485-7181

BLACKWELL, BRUCE WAYNE FP AC
80 82 85
1601-B OWEN DR.
FAYETTEVILLE 28304
OHIO STATE U 919 323-1152

BLUE, JOHN FREDERICK, JR. FP AC
78 79 84
4092 PROFESSIONAL DR.
HOPE MILLS 28348
GEO WASHINGTON U 919 424-0123

BODNAR, TIMOTHY J. EM AC
77 78 86
310 THORNCLIFF DR.
FAYETTEVILLE 28303
PENN STATE U 919 323-6167

BRIGGS, JOHN GLENN, JR. PS AC
69 69 78
1782 METRO MEDICAL DR.
FAYETTEVILLE 28304
U OF NC 919 323-1203

BRYAN, JOHN HUGH TR /HEM AC
69 69 83
DEPT OF RADIATION THERAPY
BOX 41208, CAPE FEAR MED. CTR.
FAYETTEVILLE 28304
U OF NC 919 323-6690

BUTLER, CAREY JONES OTO AC
52 52 54
516 OWEN DRIVE
FAYETTEVILLE 28304
MED COLL OF VA 919 485-6101

CAMPBELL, FRANK HIGHSMITH GS /TS AC
46 50 56
P. O. BOX 53651
FAYETTEVILLE 28305
DUKE 919 485-6161

CHAUDHURI, DEBI PRASAD GS AC
62 71 77
1617 OWEN DRIVE
FAYETTEVILLE 28304
NILRATAN COLL 919 323-0101

CISZEK, THOMAS ARTHUR NPM /PD AC
77 78 86
PO BOX 2000
FAYETTEVILLE 28302
ST LOUIS U 919 323-6762

CLARK, FRANKLIN ST. CLAIR GS /CDS AC
73 73 79
1790 METROMEDICAL DRIVE
FAYETTEVILLE 28304
U OF NC 919 323-2626

CLARK, LOUIS PHILLIP, JR. HS /ORS AC
70 71 84
225 TIMBERLAKE DR.
FAYETTEVILLE 28304
MEHARRY MED COLL 919 484-2171

COOK, WILLIAM EUGENE FP /PUD L/RT
30 30 34
115 S. CHURCHILL DRIVE
FAYETTEVILLE 28303
WASHINGTON U 919 484-5321

COPELAND, GARY BENJAMIN OPH AC
60 60 67
1629 OWEN DRIVE
FAYETTEVILLE 28304
BOWMAN GRAY 919 484-6141

CRUMMIE, ROBERT GWINN P AC
65 64 69
6245 CLIFFDALE ROAD
FAYETTEVILLE 28304
DUKE 919 868-4816

DALY, LIAM N. P AC
60 67 69
1262 OLIVER ST.
FAYETTEVILLE 28304
U OF DUBLIN 919 484-5151

DANIEL, CROWELL TURNER, JR. OBG AC
48 48 59
1641 OWEN DRIVE
FAYETTEVILLE 28304
MED COLL OF VA 919 484-6474

DRAKE, DAVID EWING FP AC
51 52 56
P. O. BOX 3654
FAYETTEVILLE 28305
DUKE 919 485-3078

ELLENBOGEN, CHARLES IM /ID AC
64 69 81
1601-B OWEN DRIVE
FAYETTEVILLE 28304
U OF CHICAGO 919 323-1152

ELLISON, GERALD LYNN DR AC
65 65 73
495 RAYCONDA
FAYETTEVILLE 28304
GEO WASHINGTON U 919 483-7400

EWING, JOHN ALEXANDER P AC
46 52 55
1262 OLIVER ST.
FAYETTEVILLE 28304
U OF EDINBURGH 919 484-5151

FABIAN, DENIS PS /GS AC
36 36 76
503 OWEN DR.
PO BOX 64517
FAYETTEVILLE 28306
LONDON U 919 483-8121

FLEISHMAN, MALCOLM IM /CD AC
54 54 59
P. O. BOX 35126
FAYETTEVILLE 28303
U OF NC 919 484-0144

FLEISHMAN, STEPHEN BAER P /CHP AC
74 76 76
1285 OLIVER STREET
FAYETTEVILLE 28304
U OF MARYLAND 919 484-4171

GARBER, EDGAR CLYDE, JR. GYN AC
44 47 50
1641 OWEN DRIVE
FAYETTEVILLE 28304
MED COLL OF VA 919 484-6474

GARDNER, FRANCIS SIDNEY, JR. OBG AC
51 51 61
1219 WALTER REED ROAD
FAYETTEVILLE 28304
U OF MARYLAND 919 323-2103

GARISON, GARY BROWN CD /IM AC
62 62 71
3423-A MELROSE ROAD
FAYETTEVILLE 28304
TEMPLE U 919 484-6154

GASKINS, RAYMOND ALBERT, JR. FP /OM AC
75 75 82
126 THORNCLIFF
FAYETTEVILLE 28303
U OF NC 919 323-3183

GILBERT, DAVID BRANSON CD /IM AC
65 65 81
1756 METROMEDICAL DRIVE
FAYETTEVILLE 28304
U OF COLORADO 919 323-1322

GILBERT, STANLEY KEITH, JR. ORS /HS AC
75 78 82
1300 MEDICAL DRIVE
FAYETTEVILLE 28304
U OF VIRGINIA 919 484-2171

GIMESH, JOHN SIGMUND PD AC
54 61
3415-C MELROSE ROAD
FAYETTEVILLE 28304
U OF BUDAPEST 919 484-816

GINN, FRED LEGRAY PTH AC
62 66
CAPE FEAR VALLEY HOSPITAL
FAYETTEVILLE 28302
DUKE 919 323-614

GODWIN, HAROLD LACY IM AC
47 47
1601-B OWEN DRIVE
FAYETTEVILLE 28304
HARVARD 919 323-115

GOMEZ, RAUL FERNANDO P AC
67 67
P. O. BOX 40237
FAYETTEVILLE 28304
U OF CALDAS 919 484-963

GRAFF, LOUIS GEORGE AN AC
52 52
2306 ROLLING HILL
FAYETTEVILLE 28304
JEFFERSON 919 323-606

HAIR, GLENN EDGAR OT /OTO AC
59 59
3314 MELROSE ROAD
FAYETTEVILLE 28304
U OF NC 919 323-146

HAITHCOCK, WILLIAM DANA, JR. OBG AC
73 77
1219 WALTER REED ROAD
FAYETTEVILLE 28304
MED U OF SC 919 323-210

HALL, JAMES SAMUEL PD AC
57 57
3415-C MELROSE ROAD
FAYETTEVILLE 28304
DUKE 919 484-816

HARDISON, JOE WILLIAM OBG /GE AC
65 65
1320 MEDICAL DRIVE
FAYETTEVILLE 28304
U OF NC 919 323-330

HARDISON, LEWIS BENJAMIN FP AC
52 52
P. O. BOX 64369
FAYETTEVILLE 28306
BOWMAN GRAY 919 323-008

HARMON, PERRY MONROE OBG AC
74 75
1811 LAKESHORE DR.
FAYETTEVILLE 28305
U OF NC 919 484-327

HARRIS, LARRY COLEMAN PD AC
77 78
P. O. BOX 40405
FAYETTEVILLE 28309
DUKE 919 323-428

HARTNESS, ALVIN HUNTER PD AC
65 65
514 OWEN DRIVE
FAYETTEVILLE 28304
BOWMAN GRAY 919 323-457

HAYES, BENNETT ALLEN, JR. OBG AC
57 57
1219 WALTER REED ROAD
FAYETTEVILLE 28304
U OF NC 919 323-210

HENLEY, DOUGLAS EUGENE FP AC
77 77
4092 PROFESSIONAL DR.
HOPE MILLS 28348
U OF NC 919 424-012

HENLEY, JOHN T., JR. OTO AC
72 72
3314 MELROSE RD., STE. 100
FAYETTEVILLE 28304
U OF NC 919 323-146

HENSCHEN, HAL GS AC
44 67
2515 MORGANTON RD.
FAYETTEVILLE 28303
EMORY U 919 485-875

HIGHSMITH, WILLIAM COCHRAN IM L/R
31 30
410 DRUMHELLER ROAD
CLEMMONS 27012
U OF CINCINNATI 919 766-990

HINES, MICHELE L. A. R AC
79 80
PO BOX 2324
FAYETTEVILLE 28302
U OF NC 919 483-493

HOFFMAN, CHARLES ANTHONY, JR. U AC
54 55
513 OWEN DRIVE
FAYETTEVILLE 28304
MED COLL OF VA 919 485-880

26. CUMBERLAND COMPONENT SOCIETY (Continued)

OFFMAN, EDNA TERESA MAURA OBG AC
348 VALLEY ROAD 54 54 73
FAYETTEVILLE 28305
MED COLL OF VA 919 485-4755

OWILER, WILLIAM EDWARD, JR. GE AC
1778 METROMEDICAL DRIVE 70 73 77
FAYETTEVILLE 28304
MED U OF SC 919 323-5203

URDLE, THOMAS GRAY U AC
1786 METROMEDICAL DR. 45 45 55
FAYETTEVILLE 28304
MED COLL OF VA 919 485-8151

URIETA, HENRY IM AC
514 BEAUMONT ROAD 61 71 72
FAYETTEVILLE 28304
U OF MADRID 919 485-8831

AMACHELLO, NICHOLAS OBG RT
307 SYLVAN ROAD 58 58 71
FAYETTEVILLE 28305
U OF PENN 919 485-8729

OHNSEN, LYNN IM L
524 BEAUMONT ROAD 43 48 49
FAYETTEVILLE 28304
U OF WISCONSIN 919 484-6080

OHNSON, JAMES ERWIN ORS AC
3308 MELROSE ROAD 69 70 79
FAYETTEVILLE 28304
U OF MINN 919 484-4874

ONES, J. WESLEY GE /IM AC
1314 MEDICAL DR., STE. 102 76 76 84
FAYETTEVILLE 28304
DUKE 919 323-2477

ORDAN, WELDON HUSKE IM AC
114 BROADFOOT AVENUE 47 47 55
FAYETTEVILLE 28305
HARVARD 919 484-3261

ORDAN, WILLIAM RAND U AC
1786 METROMEDICAL DRIVE 70 70 79
FAYETTEVILLE 28304
U OF NC 919 485-8151

EENEY, GLENWARD THOMAS OBG AC
1219 WALTER REED ROAD 67 67 77
FAYETTEVILLE 28304
MED COLL OF VA 919 323-2103

ERANEN, VICTOR JOSEPH NS AC
3314 MELROSE ROAD, SUITE 104 64 64 71
FAYETTEVILLE 28304
DUKE 919 484-9802

LGORE, LARRY CHARLES FP AC
1430 BERKSHIRE RD. 81 81 82
FAYETTEVILLE 28304
U OF ARKANSAS

M, SARAH AI AC
1317 MEDICAL DR. STE. #3 50 50 82
FAYETTEVILLE 28304
LOMA LINDA U 919 323-3890

M, WILLIAM NO CHUN OBG /OM AC
1317 MEDICAL DR. STE. #3 52 52 82
FAYETTEVILLE 28304
LOMA LINDA U 919 323-3890

URTEN, LOUIS JOHN IM /CD RT
2826 MILLBROOK RD. 40 40 72
FAYETTEVILLE 28303
NORTHWESTERN U 919 484-8058

ANGLEY, JOHN RICHARD GS AC
1317 MEDICAL DR. STE. #2 68 68 87
FAYETTEVILLE 28304
MED U OF SC

ARSEN, LARS CHRISTIAN FP AC
1601 OWEN DRIVE 73 74 84
FAYETTEVILLE 28304
SYRACUSE 919 323-1152

EMASTER, PIERRE CLIFFORD PD AC
1291 OLIVER STREET 71 75 78
FAYETTEVILLE 28304
U OF FLORIDA 919 483-2646

EVI, GEORGE ALBERT OPH L
1629 OWEN DRIVE 50 50 58
FAYETTEVILLE 28304
MED U OF SC 919 484-6144

OGEL, ROBERT JOHN ORS AC
3308 MELROSE ROAD 72 72 77
FAYETTEVILLE 28305
U OF MISSOURI 919 484-3114

LOGUE, STEPHEN STUART IM AC
1766 METROMEDICAL DR. 79 82 84
FAYETTEVILLE 28304
U OF NC 919 483-8080

LOHAVICHAN, CHOOMSANG NEP /IM AC
PO BOX 42736 65 65 74
FAYETTEVILLE 28304
SIRIRAJ HOSP U 919 323-1315

LOHAVICHAN, VIRAT CD /IM AC
P. O. BOX 64277 63 64 73
FAYETTEVILLE 28306
SIRIRAJ HOSP U 919 323-1315

LOUGHLIN, HOWARD HOPKINS PD AC
1213 WALTER REED ROAD 70 74 76
FAYETTEVILLE 28304
U OF PENN 919 484-6121

LUTMAN, GEORGE BENTON PTH AC
P. O. BOX 2000 64 64 74
FAYETTEVILLE 28302
U OF MISSOURI 919 323-6149

MACRAE, JOHN DONALD R L/RT
700 MEASE PLAZA, APT. 850 27 28 30
DUNEDIN, FL 33528
U OF PENN 813 733-1161

MARCOTTE, DAVID BACON P AC
1262 OLIVER ST. 63 63 82
FAYETTEVILLE 28304
CORNELL U 919 484-5151

MAY, CHARLES RAYSOR, III AN AC
2345 ROLLING HILL RD. 62 62 84
FAYETTEVILLE 28304
MED U OF SC 919 323-5491

MCALISTER, LINDA THERESA OBG AC
PO BOX 53514 78 80 85
FAYETTEVILLE 28305
U OF CALIFORNIA 919 485-1191

MCCUTCHEN, THOMAS M.,JR. PD AC
1213 WALTER REED ROAD 63 68 69
FAYETTEVILLE 28304
VANDERBILT U 919 484-6121

MCDANIEL, JACK PASCHAL OBG AC
1320 MEDICAL DRIVE 56 56 64
FAYETTEVILLE 28304
U OF NC 919 323-3301

MCFADYEN, OSCAR LEE, JR. IM L/RT
524 VALLEY ROAD 40 41 42
FAYETTEVILLE 28305
DUKE 919 484-0221

MCLESTER, WILLIAM DUMAS OPH /PTH AC
597 OLIVER STREET 65 65 71
FAYETTEVILLE 28304
U OF NC 919 323-2002

MEEK, JOE BERNARD ORS AC
1300 MEDICAL DRIVE 64 64 73
FAYETTEVILLE 28304
MED U OF SC 919 484-2171

MEHTA, HASUMATI VIJAYKUMAR FP /OBG AC
1611 OWEN DR. 69 75 75
FAYETTEVILLE 28304
U OF BOMBAY 919 323-4091

MEHTA, VIJAYKUMAR B. HEM /ON AC
1611 OWEN DR. 57 71 75
FAYETTEVILLE 28304
BARODA U 919 323-4091

MEYMANDI, ASSAD P /N AC
1212 WALTER REED ROAD 62 66 67
FAYETTEVILLE 28304
GEO WASHINGTON U 919 485-6166

MILLER, DUDLEY AC
150 ROBESON STREET 59 59 70
FAYETTEVILLE 28301
U OF MISSOURI 919 483-3156

MILLER, HORACE WILLIAM, JR. IM /CD AC
1766 METROMEDICAL DR. 51 51 53
FAYETTEVILLE 28304
BOWMAN GRAY 919 483-7090

MILLER, WILLIAM CAREY, JR. R AC
1653 BANBURY DRIVE 58 58 69
FAYETTEVILLE 28304
MED U OF SC 919 484-6881

MOELLER, ARLYN MCCLAY FP AC
118 POMPTON DRIVE 56 56 83
FAYETTEVILLE 28304
U OF IOWA 919 424-6104

MORESS, RALPH LOUIS P AC
P. O. BOX 2068 59 60 75
FAYETTEVILLE 28302
CORNELL U 919 323-0601

MORRISON, ROBERT HOLCOMBE OBG L/RT
331 FAIRFIELD RD. 44 44 55
FAYETTEVILLE 28303
U OF VIRGINIA 919 867-1044

NEWMAN, WILLIAM HAROLD GS /TS AC
3427 MELROSE ROAD 56 56 65
FAYETTEVILLE 28304
BOWMAN GRAY 919 484-4106

PANTELAKOS, CONSTANTINE G. OTO AC
1653 OWEN DRIVE 57 57 64
FAYETTEVILLE 28304
DUKE 919 484-5108

PARFITT, HENRY E., JR. U AC
1786 METROMEDICAL DR. 75 76 83
FAYETTEVILLE 28303
U OF NC 919 485-8151

PATOW, WARREN EDWARD OBG AC
1601-B OWEN DR. 47 48 85
FAYETTEVILLE 28304
M C OF WISCONSIN 919 323-1152

PAUL, FRANKLIN ARTHUR GS AC
6834 TOWBRIDGE ROAD 58 59 84
FAYETTEVILLE 28306
HAHNEMANN 919 599-3346

PENNINK, MENNO NS AC
3314 MELROSE RD. STE. 103 67 74 75
FAYETTEVILLE 28304
U OF AMSTERDAM 919 323-0475

POLLARD, JOHN CHRISTOPHER PD AC
1213 WALTER REED DRIVE 68 68 75
FAYETTEVILLE 28304
U OF VIRGINIA 919 484-6121

POWELL, WILLIAM CARLYLE PD AC
P. O. BOX 53127 52 52 58
FAYETTEVILLE 28305
BOWMAN GRAY 919 484-3121

RAMPULLA, ELLIOT JOHN AN AC
1762 METROMEDICAL DRIVE 72 72 82
P. O. BOX 64405
FAYETTEVILLE 28306
BOWMAN GRAY 919 323-5491

RITCHEY, JOHN PHILLIP OPH AC
6816 UPPINGHAM ROAD 65 65 77
FAYETTEVILLE 28306
U OF OREGON 919 484-6141

RIVERS, RUEBEN NORMAN IM AC
1738 METROMEDICAL DRIVE 78 82 84
FAYETTEVILLE 28304
DUKE 919 323-2503

ROBERTS, GAYLE ARLEN ON AC
509 EDINBURGH 66 67 84
FAYETTEVILLE 28303
U OF LOUISVILLE

ROBERTSON, JOHN NEWTON OPH L/RT
P. O. BOX 30 23 23 23
FAYETTEVILLE 28303
MED COLL OF VA 919 485-2732

ROCHMAN, STEPHEN CHARLES U AC
513 OWEN DRIVE 70 71 78
FAYETTEVILLE 28304
MEHARRY MED COLL 919 485-8801

ROOT, JAMES HAROLD, JR. PD AC
PO BOX 367 43 46 82
KILMARNOCK, VA 22482
SYRACUSE

ROTHSTEIN, MANFRED SHELDON D AC
1308 MEDICAL DRIVE 74 75 77
FAYETTEVILLE 28304
DUKE 919 323-2227

SALIBA, CONSTANTIN GS AC
3318 MELROSE ROAD 50 50 71
FAYETTEVILLE 28304
U OF ST JOSEPH 919 323-0280

SAPPENFIELD, LUTHER COOK, JR. OPH AC
1629 OWEN DRIVE 57 57 65
FAYETTEVILLE 28304
DUKE 919 484-6141

SATTLER, RAYMOND LOUIS NS AC
3314 MELROSE RD., APT. 104 77 77 83
FAYETTEVILLE 28304
CASE WESTERN RES 919 738-7146

26. CUMBERLAND COMPONENT SOCIETY (Continued)

SHAW, FRANK STEDMAN PD /PDA AC
P. O. BOX 53127 59 59 66
FAYETTEVILLE 28305
U OF PENN 919 484-3121

†SHAW, JOHN ALEXANDER PD L
5948 BRAGG BOULEVARD 23 23 26
DECEASED - 3-23-87
FAYETTEVILLE 28305
U OF PENN 919 484-3121

SHEN, SUNG FAN FP AC
2414 HOPE MILLS ROAD 66 72 78
FAYETTEVILLE 28304
TAIWAN U-TAIPEI 919 424-2426

SHEREFF, RICHARD HENRY D /A AC
139 HUNTER CIRCLE 70 71 78
FAYETTEVILLE 28304
U OF TENNESSEE 919 323-4888

SIEWERS, CHRISTIAN FOGLE ORS /PM AC
S.E. REGIONAL REHAB. 44 50 50
P. O. BOX 2000
FAYETTEVILLE 28302
MED COLL OF VA 919 323-6036

SNIPES, RICHARD DEAN OBS AC
P. O. BOX 53514 42 45 46
FAYETTEVILLE 28305
DUKE 919 485-1191

SNYDER, NORMAN IRWIN P /CHP AC
1262 OLIVER ST. 72 73 85
FAYETTEVILLE 28304
WAYNE STATE U 919 484-5151

STAPLETON, SYDNEY SCOTT OPH AC
101 ROBESON ST., STE. 407 80 81 84
FAYETTEVILLE 28301
U OF NC 919 483-2117

STEFFES, BRUCE CARL GS AC
1790 METROMEDICAL DR. 76 78 83
FAYETTEVILLE 28304
U OF MICHIGAN 919 323-2626

STEWART, ALBERT, JR. IM AC
114 BROADFOOT AVENUE 44 48 50
FAYETTEVILLE 28305
WASHINGTON U 919 484-3365

STEWART, DAVID DUBOSE IM AC
114 BROADFOOT AVE. 82 82 85
FAYETTEVILLE 28305
MED U OF SC 919 484-1156

STITT, VAN JUNIUS, JR. FP /GER AC
1601 OWEN DRIVE 75 75 81
FAYETTEVILLE 28304
U OF NC 919 323-1152

STOWE, FRED REECE, JR. N /CHN AC
3314 MELROSE RD., STE. 102 58 58 77
FAYETTEVILLE 28304
U OF NC 919 484-7405

TRAN, LUCAS VAN N AC
101 ROBESON ST. STE. 410 76 83 86
FAYETTEVILLE 28301
SAIGON U 919 483-5050

VIETA, PAUL ANTHONY OBG AC
911 HAY ST. 66 67 76
PO BOX 53514
FAYETTEVILLE 28305
MED SCH-UMDNJ 919 485-1191

WAHBEH, CAMILLE JAMIL OBG AC
1601-B OWEN DRIVE 77 81 84
FAYETTEVILLE 28304
AMER.U OF BEIRUT 919 323-1152

WALLS, BERTRAM EMMANUEL OBG AC
1774 METROMEDICAL DRIVE 76 76 82
FAYETTEVILLE 28304
DUKE 919 323-4155

WARREN, HAROLD DRAPER IM AC
2333 ROLLING HILLS ROAD 37 40 79
FAYETTEVILLE 28304
MCGILL U 919 484-1735

WEAVER, ROY ALBERT PTH AC
CAPE FEAR HOSPITAL 63 63 71
PO BOX 2000
FAYETTEVILLE 28302
U OF NC 919 323-6149

WEBB, ROBERT KENT NEP /IM AC
PO BOX 42736 67 73 76
FAYETTEVILLE 28304
WEST VA U 919 484-8114

WELLS, CHARLES LEWIS PTH AC
CAPE FEAR VALLEY MED. CTR. 59 60 7
PO BOX 2000
FAYETTEVILLE 28302
U OF PITTSBURGH 919 323-614

WETTER, JAMES MICHAEL FP AC
1601-B OWEN DRIVE 74 78 7
FAYETTEVILLE 28306
ST U OF NY-BUFF 919 323-115

WHETSELL, DOUGLAS WAYNE IM /PUD AC
1756 METROMEDICAL DR. 68 68 8
FAYETTEVILLE 28304
MED U OF SC 919 323-132

WILLIS, ROBERT FREDERICK FP AC
204 S. MAIN STREET 51 52 5
HOPE MILL 28348
MED COLL OF VA 919 424-664

WITHERS, LARRY DALE AN AC
150 ELLERSLIE DR. 77 79 8
FAYETTEVILLE 28303
EMORY U 919 864-511

WOODWORTH, THOMAS BELL FP AC
1657 OWEN DRIVE 69 71 7
FAYETTEVILLE 28304
U OF MICHIGAN 919 484-654

WORDEN, NEIL ASHTON FP AC
116 ROWAN STREET 51 51 5
FAYETTEVILLE 28301
U OF LOUISVILLE 919 483-046

WRIGHT, EUGENE EDWARD, JR. IM AC
1738 METROMEDICAL DR. 78 79 8
FAYETTEVILLE 28304
DUKE 919 323-250

ZELLNER, ERIC G. B. PM AC
2129 ROLLING HILLS RD. 81 82 8
FAYETTEVILLE 28304
U OF MONTERREY 919 323-603

29. DAVIDSON COMPONENT SOCIETY

OFFICERS—**President:** Deborah S. Lenahan, M.D., 2 Hospital Dr., Lexington 27292 (704 243-2436)
Secretary: Karl E. Bolstad, M.D., 11 Medical Park Dr., Lexington 27292 (704 249-2978)

ABBOTT, THOMAS DEAN FP AC
RIPPLE BLDG. PO BOX 120 83 84 86
WELCOME 27374
U OF VIRGINIA 704 731-4006

ARNOLD, TERRY VINCENT IM AC
13 MEDICAL PARK DR. 73 74 80
LEXINGTON 27292
OHIO STATE U 704 249-7051

BECK, ROBERT KENT OTO AC
20 W. FIFTH AVE. 79 80 85
LEXINGTON 27292
AUTONOMA U 704 246-8660

BLACK, JAMES FRANKLIN OBG AC
7 MEDICAL PARK DRIVE 75 75 75
LEXINGTON 27292
U OF NC 704 243-2431

BLACKWELL, OSCAR MOORE, III IM /BE AC
309 PINEYWOOD ROAD 74 75 78
THOMASVILLE 27360
EMORY U 919 475-8121

BOLSTAD, KARL EDWARD ORS AC
14 MEDICAL PARK DR. 72 73 80
LEXINGTON 27292
U OF MICHIGAN 704 249-2978

BOSKEN, DONALD WILLIAM FP AC
400 RANDOLPH ROAD 74 74 78
THOMASVILLE 27360
U OF KANSAS 919 475-7163

BRODER, MICHAEL SYLVAN DR AC
PO BOX 789 69 70 80
THOMASVILLE 27360
ALBERT EINSTEIN 919 472-2000

BURCHEL, HAROLD CURTIS FP AC
201 W. HOLLY HILL ROAD 67 67 73
THOMASVILLE 27360
SYRACUSE 919 475-2915

BURKE, JAMES OTIS, JR. PD AC
8 MEDICAL PARK DRIVE 65 65 71
LEXINGTON 27292
U OF NC 704 249-4911

BUSBY, WILLIAM JARVIS ORS AC
105 PINEYWOOD ROAD 70 72 81
THOMASVILLE 27360
U OF NC 919 475-8141

BYRNES, THOMAS HENDERSON,JR. IM /CD AC
309 PINEYWOOD ROAD 63 63 71
THOMASVILLE 27360
DUKE 919 475-8121

CABRAL, DEBORAH BARBARA FP AC
208-B W. CENTER ST. 80 82 85
LEXINGTON 27292
ST U OF NY-BUFF 704 249-2921

CATHELL, EDWIN JENNINGS GS L/RT
P. O. BOX 440 30 30 32
LEXINGTON 27292
EMORY U 704 246-2745

CITRIN, KERRY ALAN GS AC
105 PINEYWOOD ROAD 70 75 78
P. O. BOX 1187
THOMASVILLE 27360
HAHNEMANN 919 475-7148

CRANFORD, HAROLD DAVIS OPH AC
22 YOUNG DR. 56 56 59
PO BOX 747
LEXINGTON 27292
DUKE 704 249-7544

CRAVEN, NICHOLAS SCOTT FP /P AC
123 EASTSIDE DR. 62 62 78
LEXINGTON 27292
DUKE 704 246-2253

CROSBY, FAITH BERNADETTE PD A
244 FAIRVIEW DRIVE 77 79
LEXINGTON 27292
MED U OF SC 704 246-43

DACUS, ROBERT MABRY, III OBG A
1302 LEXINGTON AVENUE 65 65
THOMASVILLE 27360
BOWMAN GRAY 919 475-61

DEANG, CEDRIC RODRIGUEZ GS A
1300 LEXINGTON AVENUE 63 74
THOMASVILLE 27360
FAR EAST U 919 475-23

DEL TORO, MIGUEL HIGINIO DR A
102 LINDEN LANE 72 75
LEXINGTON 27292
U OF PUERTO RICO 704 249-15

DIXON, DIRK STANCILL, SR. R A
P. O. BOX 1532 65 65
LEXINGTON 27292
BOWMAN GRAY 919 249-15

DORTON, PHILLIP KEVIN OBG A
1302 LEXINGTON AVE. 80 81
THOMASVILLE 27360
U OF NC 919 475-61

FEDDER, MARC IM /ID A
208-D W. CENTER STREET 75 79
P. O. BOX 557
LEXINGTON 27292
AUTONOMA U 704 249-42

FUTRELL, THOMAS MILTON FP A
201 W. HOLLY HILL ROAD 80 81
THOMASVILLE 27360
TEMPLE U 919 475-91

29. DAVIDSON COMPONENT SOCIETY (Continued)

LLIAM, CHARLES FRANKLIN PD AC
200 ARTHUR DRIVE 52 52 54
THOMASVILLE 27360
J OF MARYLAND 919 475-2348

ARRIS, SAMUEL RANCHOR OBG AC
7 MEDICAL PARK DRIVE 68 68 75
LEXINGTON 27292
J OF NC 704 243-2431

EDGPETH, JOSEPH ROWLAND OBG AC
1302 LEXINGTON AVENUE 66 66 73
THOMASVILLE 27360
BOWMAN GRAY 919 475-6139

GHSMITH, GEORGE PERRY IM AC
309 PINEYWOOD ROAD 46 46 50
THOMASVILLE 27360
BOWMAN GRAY 919 475-8121

INTER, JAMES EDWARD IM /BE AC
1057 RANDOLPH ROAD 62 62 69
THOMASVILLE 27360
CASE WESTERN RES 919 475-8121

IRST, DAVID MAURICE R /NM AC
1003 PINE NEEDLE LANE 62 62 69
THOMASVILLE 27360
U OF TENNESSEE 919 475-3056

NAHAN, DEBORAH SMITHERMAN OPH AC
2 HOSPITAL DR. 78 79 84
LEXINGTON 27292
U OF ALABAMA 704 243-2436

ONARD, JACOB CALVIN, JR. OTO /OPH L/RT
119 W. SECOND AVE. 28 28 31
LEXINGTON 27292
JEFFERSON 704 246-5295

OHR, DERMOT PH L/RT
20 VANCE CIRCLE 34 34 38
LEXINGTON 27292
JEFFERSON 704 246-2626

OHR, LLOYD DERMOT OBG AC
7 MEDICAL PARK DRIVE 61 61 69
LEXINGTON 27292
U OF NC 704 243-2431

ANDEL, DALE MASON GS /TRS AC
105 PINEYWOOD RD. BOX 1187 77 80 85
THOMASVILLE 27360
U OF BOLOGNA 919 475-7148

CGOVERN, LARRY GS AC
200 CAROLINA AVE. 65 69 87
LEXINGTON 27292
JEFFERSON 919 249-0144

MOCK, DAVID CARLTON GP AC
208-C W. CENTER STREET 46 46 50
LEXINGTON 27292
BOWMAN GRAY 704 246-5826

MORGAN, RICHARD YOUNG IM /GP AC
100 CAROLINA AVE. 47 53 54
LEXINGTON 27292
MED COLL OF VA 704 246-5836

PETERSEN, KENNETH MICHAEL GS /CDS AC
4 MEDICAL PARK DR. 74 74 81
LEXINGTON 27292
DOWNSTATE ME CTR 704 246-2487

PHELAN, JOHN WILLIAM JOSEPH P /IM AC
503 WILLOW DR. 61 62 85
THOMASVILLE 27360
MED SCH-UMDNJ 919 475-8184

PHILLIPS, MARVIN WORTH FP AC
P. O. BOX 367 45 45 49
THOMASVILLE 27360
MED COLL OF VA 919 472-7262

PLUMMER, CHARLES WAYNE AN AC
50 E. MAIN ST., STE. 111 78 81 85
THOMASVILLE 27360
DUKE 919 472-2000

REDWINE, JAMES DANIEL GP L/RT
6 WILLIAMS CIRCLE 31 31 34
LEXINGTON 27292
EMORY U 704 246-2658

SLYMAN, JAMES FRANCIS OPH AC
2 HOSPITAL DR. 77 78 82
LEXINGTON 27292
BOWMAN GRAY 704 243-2436

SMITH, DAVID CLARK IM L/RT
102 WESTOVER DRIVE 43 44 48
LEXINGTON 27292
BOWMAN GRAY 704 246-2929

STEPP, HESTLEY DANARD PD AC
200 ARTHUR DRIVE 59 59 71
THOMASVILLE 27360
BOWMAN GRAY 919 475-2348

STRADER, EUGENE RAY FP AC
901 E. CENTER STREET 56 56 58
LEXINGTON 27292
BOWMAN GRAY 704 249-1200

STRADER, HUNTER GORDON, JR. FP AC
2 CHERRY STREET 58 58 63
LEXINGTON 27292
DUKE 704 249-9626

SUTTLE, EVELYN AMY PD AC
244 FAIRVIEW DRIVE 78 81 84
LEXINGTON 27292
U OF TENNESSEE 704 246-4333

TEAM, ROBERT ALSTON FP AC
2 CHERRY STREET 52 52 57
LEXINGTON 27292
BOWMAN GRAY 704 246-4539

THOMPSON, WILLIAM KEITH PD AC
200 ARTHUR DRIVE 69 69 77
THOMASVILLE 27360
BOWMAN GRAY 919 475-2348

TOLLIVER, JAMES BERT FP AC
510-A TURNER STREET 60 61 76
THOMASVILLE 27360
U OF LOUISVILLE 919 475-9171

UPPIN, A. S. GS AC
400 E. CENTER STREET 61 62 73
LEXINGTON 27292
BARODA U 704 249-2991

VOLKMER, DONALD DURHAM IM AC
OLD 29-70 SOUTH 72 79 84
P. O. BOX 579
LEXINGTON 27292
NORTHWESTERN U 704 249-7785

WELBORN, JAMES TODD FP AC
17 E. SECOND AVENUE 48 48 50
LEXINGTON 27292
U OF MARYLAND 704 246-5625

WILLIAMS, DAVID ROBERT PD AC
200 ARTHUR DRIVE 63 63 69
THOMASVILLE 27360
U OF NC 919 475-2348

WILLMOT, MICHEAL HENRY GS AC
PO BOX 993 75 75 82
THOMASVILLE 27360
U OF MISSISSIPPI 919 472-4433

WOLFBERG, BERNARD P AC
17 CUB DR. 69 69 84
THOMASVILLE 27360
CHICAGO MED SCH 919 475-8184

YORK, SHELLEY CLYDE, JR. GS AC
1300 LEXINGTON AVENUE 51 52 59
THOMASVILLE 27360
U OF MARYLAND 919 475-2376

31. DUPLIN COMPONENT SOCIETY

FFICERS—**President:** C. L. Quinn, M.D., 112-116 N. R.R. St., Magnolia 28453 (919 285-2111)
Secretary: Coragon Ngo, M.D., P.O. Box 538, Kenansville 28449

MMAR, MOHAMED IBRAHIM OBG AC
P. O. BOX 468 65 80 82
KENANSVILLE 28349
U OF EIN SHAMS 919 296-1666

LAIR, JAMES SEABORN, JR. FP AC
400 E. MAIN STREET 47 47 50
WALLACE 28466
U OF MARYLAND 919 285-2134

OYETTE, EDWARD LEE FP /CD AC
54 54 56
CHINQUAPIN 28521
BOWMAN GRAY 919 285-3481

IETRICK, RONALD BURTON GS /TS AC
KENANSVILLE SURGICAL CLINIC 53 53 85
BOX 845
KENANSVILLE 28349
U OF PENN 919 296-0545

GUEZ, JORGE AC
PO BOX 310 54 55 87
WALLACE 28466
U CENTRAL QUITO 919 285-2191

EWERS, EDWIN PATTERSON FP L/RT
P. O. BOX 487 35 36 39
WARSAW 28398
MED COLL OF VA 919 293-4432

HAWES, CHARLES FOREST GP L/RT
P. O. BOX 486 33 32 39
ROSE HILL 28458
NORTHWESTERN U 919 289-2739

HAYNES, CARL LEWIS, JR. FP AC
PO BOX 850 80 81 85
ROSE HILL 28458
U OF NC 919 289-3027

MATTHEWS, GEORGE POWERS GP AC
P. O. BOX 609 43 43 47
ROSE HILL 28458
TEMPLE U 919 289-2330

NAGA, AHMED HADY DR AC
P. O. BOX 708 49 71 74
KENANSVILLE 28349
ALEXANDRIA U 919 296-0701

PATE, CARL DANIEL, JR. FP AC
PO BOX 986 82 00 84
BEULAVILLE 28518
U OF NC 919 757-4100

POPE, SAMUEL A. IM L/RT
35 35 52
BEULAVILLE 28518
U OF PENN 919 298-3193

QUINN, CORBETT LATIMER FP /PH AC
112-116 N. R.R. ST. 53 53 55
MAGNOLIA 28453
U OF MARYLAND 919 289-4165

QUINN, MARSHALL K. FP AC
PO BOX 189 83 83 83
MAGNOLIA 28453
BOWMAN GRAY 919 289-4165

RICCI, DANIEL MICHAEL IM AC
RT. #2, BOX 117X 83 84 87
WARSAW 28398
HAHNEMANN 919 289-3086

SUTTON, WILLIAM WAYNE FP AC
337 N. NORWOOD STREET 59 59 60
WALLACE 28466
U OF NC 919 285-2111

32. DURHAM-ORANGE COMPONENT SOCIETY

OFFICERS—**President:** William B. Wood, M.D., UNC 231 MacNider Bldg., Chapel Hill 27514 (919 962-2188)
Secretary: William N. P. Herbert, M.D., UNC, OB-GYN Dept., Chapel Hill 27514 (919 966-1601)
Executive Secretary: Mrs. Jerry H. Nance, 419 Dickson Mill Rd., Durham 27705 (919 383-2602)

ABERNATHY, WILLIAM SHERWOOD CD /IM AC
2609 N. DUKE ST., STE, 403 69 70 80
DURHAM 27704
COLUMBIA U 919 471-8441

ABERNETHY, MARY LISA S
3534 ERICA WAY, CROWNE POINT 87 00 86
BIRMINGHAM, AL 35243
U OF NC

ABSE, DAVID WILFRED P AC
ST. ALBANS HOSPITAL 48 52 54
RADFORD, VA 24143
WELSH NATL SCH 804 977-1120

ACKER, JEFFREY CHARLES S
2209 MOREHEAD AVE., APT. #2 89 00 85
DURHAM 27707
DUKE 919 684-5154

ADAMS, BEVERLY J. S. PSF /HNS AC
1110 W. MAIN STREET 76 77 80
DURHAM 27701
DUKE 919 682-9341

ADAMS, ELIZABETH C. S
200 CREST ST. APT. A-9 88 00 84
CARRBORO 27510
U OF NC 919 967-7467

ADAMSON, WM. TALBOT S
3222 COACHMAN'S WAY 90 00 87
DURHAM 27705
DUKE 919 489-7372

ADER, OTTIS LADEAU PH L/RT
PO BOX 507 25 25 51
WALKERTOWN 27051
U OF PENN 919 595-2251

AITKEN, MARY ELIZABETH S
308 BRIARBRIDGE VALLEY RD. 88 00 85
CHAPEL HILL 27514
U OF NC 919 929-7833

AKWARI, ANNE MICHEAUX OM /IM AC
IBM CORPORATION 657/205 76 76 85
P. O. BOX 12195
RESEARCH TRIANGLE PK 27709
HOWARD U 919 543-5508

AKWARI, ONYEKWERE E. GS AC
BOX 3076, DUMC 70 73 87
DURHAM 27710
U OF SOU CALIF 919 684-5509

ALDRICH, HARRY RANDOLPH R
BOX 31264, DUMC 87 00 83
DURHAM 27710
DUKE 919 684-6761

ALLEN, ELIZABETH P AC
3333 CHAPEL HILL BOULEVARD 58 58 71
DURHAM 27707
U OF TENNESSEE 919 489-3889

ALLEN, JAMES LATHAN OBG AC
1821 GREEN STREET 65 65 74
DURHAM 27705
EMORY U 919 286-1258

ALLEN, RODNEY H. OBG /END S
602 THE OAKS 88 00 84
CHAPEL HILL 27514
U OF NC 919 929-5745

ALLF, BRYAN EWING S
1711 SHAWNEE STREET 87 00 84
DURHAM 27701
DUKE 919 683-1099

ALTSHULLER, LILLIS FLATMAN PD AC
1301 FAYETTEVILLE ST. 54 54 86
DURHAM 27707
CASE WESTERN RES 919 683-1316

ALVA, JUAN GE /IM AC
609 VICKERS AVENUE 60 77 81
DURHAM 27701
ST LOUIS U 919 688-4748

ALVERSON, LISA KAY S
375-A UMSTEAD DR. 89 00 86
CHAPEL HILL 27514
U OF NC 919 967-8574

ALYEA, EDWIN PASCAL, III S
2211 MOREHEAD AVE. #3 89 00 86
DURHAM 27707
DUKE 919 495-5608

AMAYA, MARCELINO CHP /P AC
2928 FRIENDSHIP ROAD 54 65 66
DURHAM 27705
NAT U OF MEXICO 919 575-7621

ANDERSON, CARL ELVING P R
1702 VISTA ST. 83 83 85
DURHAM 27701
CORNELL U 919 688-5373

ANDERSON, EDWARD EVERETT U AC
DUKE UNIVERSITY MEDICAL CTR. 58 59 65
DURHAM 27710
DUKE 919 684-3448

ANDERSON, JAY ARTHUR AN R
4114 LIVINGSTONE PLACE 84 85 85
DURHAM 27707
U OF NC 919 489-2184

ANDERSON, PAGE ALBERT WILLIS PDC AC
BOX 3218, DUKE MEDICAL CTR. 64 65 80
DURHAM 27710
DUKE 919 684-2538

ANDERSON, WILLIAM BANKS, JR. OPH AC
DUKE UNIVERSITY EYE CENTER 56 56 60
DURHAM 27710
HARVARD 919 684-3343

ANDERSON,TERESA T. S
104 SILO COURT 90 00 87
CARY 27511
U OF NC 919 481-1752

ANDRESEN, JEFFRY JOHN PYA /P AC
NCMH,234 WING C-PSYCHIATRY 64 64 71
CHAPEL HILL 27514
U OF PENN 919 966-3378

ANDREWS, PAUL STEPHEN OBG AC
2609 N. DUKE ST. STE. 204 81 81 79
DURHAM 27704
U OF NC 919 471-8402

ANDREWS, ROBERT WILLIAM U AC
923 BROAD ST. 80 85 85
DURHAM 27705
BOWMAN GRAY 919 286-1297

ANDREWS, SUSAN DEBORAH FP R
2314 WILSON STREET 82 84 84
DURHAM 27705
MICHIGAN ST U 919 286-4079

ANGELILLO, JOHN CHARLES MFS AC
DUKE MEDICAL CENTER 70 70 76
DIV. OF PLASTIC SURGERY
DURHAM 27710
DUKE 919 684-2943

ANLYAN, WILLIAM GEORGE GS AC
BOX 3701, DUMC 49 51 56
DURHAM 27710
YALE 919 684-3438

ANTLEY, CATHERINE M. S
1119 HILLCREST ROAD 90 00 86
CHAPEL HILL 27514
U OF NC 919 968-1172

ANTOSZYK, ANDREW NICHOLAS OPH R
3116 STANFORD DRIVE 83 83 84
DURHAM 27707
NEW YORK MED COL 919 489-3937

ARENA, JAY MORRIS PD L
DUKE HOSPITAL, BOX 3024 32 32 39
DURHAM 27710
DUKE 919 684-6138

ARMSTRONG, MICHAEL, JR. S
4335-B AMERICAN DR. 89 00 85
DURHAM 27705
DUKE

ASKAR, ABDULLAH ONSY P /FP R
H-STREET, #33 70 83 85
BUTNER 27509
MANSOURAH U 919 575-9005

ATSTUPENAS, ELIOT ANTHONY
STRATFORD HILLS APTS. 12-D 89 00 8
CHAPEL HILL 27514
U OF NC 919 929-99

AYSCUE, LANIER HASTY
813 EMORY DR. 89 00 8
CHAPEL HILL 27514
U OF NC 919 968-05

BACON, DAVID SCOTT
311 S. LASALLE ST. 49H 90 00 8
DURHAM 27705
DUKE 919 286-78

BAILEY, CLARENCE ALMON, JR. PD /AI A
1824 HILLANDALE ROAD 58 63
DURHAM 27705
U OF NC 919 286-22

BAKER, KRISTINE D.
516 CHATEAU APTS. 89 00 8
CARRBORO 27510
U OF NC 919 968-12

BAKER, LENOX DIAL ORS L/F
BOX 3706, DUMC 34 35
DURHAM 27710
DUKE 919 684-26

BAKER, MARK EARLY DR A
DUMC, BOX 3808 78 79
DURHAM 27710
LOYOLA U 919 681-27

BAKEWELL, WILLIAM ERNEST, JR. P A
N. C. MEMORIAL HOSPITAL 49 60
CHAPEL HILL 27514
MCGILL U 919 966-45

BARADA, FRANC A., JR. RHU /IM A
2609 N. DUKE ST. 71 71
DURHAM 27704
U OF VIRGINIA 919 477-51

BARBORIAK, PETER N.
2748 MIDDLETON #14B 85 00 8
DURHAM 27705
DUKE 919 383-88

BARKER, RUDY WATKINS OBG A
2609 N. DUKE ST., STE. 204 67 67
DURHAM 27704
U OF NC 919 471-84

BARNES, ROBERT STEPHEN P A
228 CHERYL AVE. 80 82
DURHAM 27712
DUKE 919 477-34

BARRY, DAVID WALTER IM /ID A
BURROUGHS WELLCOME CO. 69 70
3030 CORNWALLIS ROAD
RESEARCH TRIANGLE PK 27709
YALE 919 248-45

BARWICK, WILLIAM JAMES PS A
BOX 3098, DUMC 71 71
DURHAM 27710
U OF TENNESSEE 919 684-33

BASSETT, FRANK HOUSTON, III ORS A
DUKE UNIV. MED. CTR. 57 58
DURHAM 27710
U OF LOUISVILLE 919 684-43

BAUMAN, ROC WINSTON
102 SIDNEY GREEN ST. 88 00 8
CHAPEL HILL 27514
U OF NC 919 929-54

BAYLIN, GEORGE JAY DR /OTO L/F
2535 WRIGHTWOOD AVENUE 37 41
DURHAM 27705
DUKE 919 489-96

BEATTY, PETER T.
2335 HURON CIRCLE 89 00 8
DURHAM 27707
DUKE 919 493-91

BEAZLEY, MARGIE LANE
13 HAMILTON ROAD 88 00 8
CHAPEL HILL 27514
U OF NC 919 942-27

32. DURHAM-ORANGE COMPONENT SOCIETY (Continued)

:CHTOLDT, ALBERT ARTHUR, JR. AN AC
JNC, DEPT. OF ANES. 61 61 69
CHAPEL HILL 27514
YALE 919 966-5136

:CKWITH, MARY KRISTINE OBG AC
1821 GREEN ST. 82 82 86
DURHAM 27705
J OF IOWA 919 286-1250

:DROSIAN, CAMILLE LUCIA IM R
9-A TARAWA TERRACE 83 84 84
DURHAM 27705
HARVARD 919 383-4972

:ITZ, LAURIE OWEN S
413 PRITCHARD AVE. 89 00 85
CHAPEL HILL 27514
J OF NC 919 929-7771

:LL, DOROTHY MCFARLAND OPH AC
1110 W. MAIN ST. 75 75 80
DURHAM 27701
J OF CHICAGO 919 682-9341

:LL, ELIZABETH ANNE S
52-B DAVIE CIRCLE 89 00 85
CHAPEL HILL 27514
J OF NC 919 942-6137

:LL, WILLIS HARVEY, II IM /PUD RT
2027 WAWA AVENUE 64 64 70
DURHAM 27707
DUKE 919 493-1048

:NTSEN, BIRGER STEVEN P R
PO BOX 1323 83 84 86
CHAPEL HILL 27514
J OF CINCINNATI 919 942-8226

:RGANT, JAMES ALLEN U AC
2609 N. DUKE ST., SUITE 302 69 70 76
DURHAM 27704
U OF KANSAS 919 471-8423

:RGER, GARY STERLING OBG /PH AC
109 CONNER DR., STE. 2104 69 73 76
CHAPEL HILL 27514
U OF ROCHESTER 919 968-4656

:RNHARDT, PETER F. PTH R
RT. #1 2505 HARDWOOD LN. 86 86 86
HILLSBOROUGH 27278
DUKE 919 471-8168

:RNSTEIN, ROSLYN JULIE IM R
4617 HOPE VALLEY RD., APT. H 85 00 82
DURHAM 27707
DUKE

:VIN, ABNER GRISWOLD, JR PS /GS AC
UNC, DIV. OF PLASTIC SURGERY 60 60 69
CHAPEL HILL 27514
YALE 919 966-4446

:CKSTON, STEPHEN JOSEPH S
#73 HAMILTON ROAD 88 00 85
CHAPEL HILL 27514
U OF NC 919 933-3027

:HLER, DARREN FOSTER S
108-A ESTES DR. 88 00 86
CARRBORO 27510
U OF NC 919 942-9519

GGERS, WILLIAM PAUL OTO /A AC
610 BURNETT-WOMACK-229H 63 63 69
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514
U OF NC 919 966-3341

LLMIRE, KAREN LEIGH P R
ROUTE #5, BOX 110 84 84 86
PITTSBORO 27312
U OF MASS 919 966-5711

RMINGHAM, LORRAINE FAITH FP R
5035 HADRIAN DR. 81 84 86
DURHAM 27703
DUKE 919 596-0430

ZZELL, JAMES EUSTACE, II R
1410 FOUNTAIN VIEW #101 84 00 82
HOUSTON, TX 77057
U OF NC 713 784-6504

.AIR, JERRY RAY S
14 GLEEWOOD PLACE, EAST 90 00 86
DURHAM 27713
DUKE 919 544-5534

.EYNAT, MICHELLE LOUISE S
207 SUMMERWALK CIRCLE 88 00 85
CHAPEL HILL 27514
U OF NC 919 929-7746

BLOW, OSBERT PTH R
5238 N. WILLOWHAVEN DR. 87 87 87
DURHAM 27712
DUKE 919 383-1076

BLYTHE, WILLIAM BREVARD IM /NEP AC
UNC, DEPT. OF MEDICINE 53 53 60
CHAPEL HILL 27514
WASHINGTON U 919 966-2565

BOAT, THOMAS FREDERICK PD /PUD AC
2025 S. LAKESHORE DRIVE 66 67 84
CHAPEL HILL 27514
U OF IOWA 919 966-4427

BOLESTA, MICHAEL JOSEPH ORS R
BOX 3000, DUMC 81 81 81
DURHAM 27710
U OF MISSOURI 919 684-8111

BOLICK, CHARLES ARTHUR S
901-A N. GREENSBORO ST. 87 00 84
CARRBORO 27510
U OF NC 919 929-6342

BOLLINGER, RALPH RANDAL GS /IG AC
BOX 2910, DUKE HOSPITAL 70 70 80
DURHAM 27710
TULANE U 919 684-5209

BOMBERG, ROBERT BRYAN IM AC
2609 N. DUKE STREET 64 65 74
DURHAM 27704
U OF COLORADO 919 471-8446

BOND, PAMELA EATON S
869 LOUISE CIRCLE 89 00 85
DURHAM 27705
DUKE 919 383-8354

BONDURANT, STUART IM AC
UNC, 125 MACNIDER BLDG. 53 53 80
CHAPEL HILL 27514
DUKE 919 966-4161

BOSSEN, EDWARD HECHT PTH AC
BOX 3712, DUMC 65 66 85
DURHAM 27710
DUKE 919 684-3300

BOSWELL, JOHN IVERSON, JR. CHP /P AC
N. C. MEMORIAL HOSPITAL 57 58 64
CHAPEL HILL 27514
U OF VIRGINIA 919 966-2025

BOWES, WATSON ALLEN, III S
38-A DAVIE CIRCLE 88 00 85
CHAPEL HILL 27514
U OF NC 919 942-6988

BOWES, WATSON ALLEN, JR. OBG AC
UNC, DEPT. OF OBG 59 60 86
214 MACNIDER BLDG. 202-H
CHAPEL HILL 27514
U OF COLORADO 919 966-1601

BOWLES, FRANCIS NORMAN OBG L/RT
1019 FISH CROW ROAD 24 24 26
SANIBEL, FL 33957
MED COLL OF VA 813 472-4436

BOYD, WILLIAM MONROE, V S
#1 SPRING GARDEN APTS. 89 00 85
CHAPEL HILL 27514
U OF NC 919 968-0106

BOZYMSKI, EUGENE MICHAEL GE /IM AC
UNC, DEPT.OF MEDICINE 60 60 69
324 CLINICAL SCI. BLDG. 229-H
CHAPEL HILL 27514
MARQUETTE U 919 966-2511

BRAASCH, ERNEST R. P AC
4114 DEEPWOOD CIRCLE 70 73 87
DURHAM 27707
DOWNSTATE ME CTR 919 493-2217

BRAASCH, LESLEY KRIEGMAN PYA /P AC
4114 DEEPWOOD CIRCLE 70 73 76
DURHAM 27707
DOWNSTATE ME CTR 919 493-2217

BRADY, JOSEPH LAWRENCE, JR. PD /NPM R
500 WATERSIDE DR. 82 82 81
CARRBORO 27510
U OF NC 919 968-4728

BRANTLEY, BERT ALTON, JR. ON AC
307 COLONY WOODS DRIVE 78 80 76
CHAPEL HILL 27514
DUKE 919 684-2804

BRANTLEY, INGRID JEAN CHP /P AC
3510 UNIVERSITY DRIVE 74 80 80
DURHAM 27707
DUKE 919 489-1884

BRANTLEY, JEFFREY GARLAND P AC
414 E. MAIN ST. 77 77 83
DURHAM 27701
U OF NC 919 682-9296

BRASHEAR, HARRY ROBERT, JR. ORS AC
N. C. MEMORIAL HOSPITAL 45 53 53
CHAPEL HILL 27514
U OF CALIFORNIA 919 966-2030

BRAUN, SIMON DAVID DR AC
824 SHADYLAWN RD 77 78 83
CHAPEL HILL 27514
EMORY U 919 681-2711

BREAM, CHARLES ANTHONY DR L
N. C. MEMORIAL HOSPITAL 40 52 52
CHAPEL HILL 27514
TEMPLE U 919 966-1461

BRENNER, WILLIAM EDWARD OBG /NPM AC
109 CONNER DR., STE. 2202 62 62 69
CHAPEL HILL 27514
CASE WESTERN RES 919 942-0011

BRESLIN, MARIANNE S. P /PYM AC
500 EASTOWNE DR., STE. 115 46 60 61
CHAPEL HILL 27514
DUSSELDORF GER 919 493-2657

BRIGHT, ROBERT PAUL S
433 BROOKSIDE DR. 90 00 86
CHAPEL HILL 27514
U OF NC 919 967-5440

BRINKHOUS, KENNETH MERLE PTH /HEM L
UNC, DEPT.OF PATH., 228-H 32 32 47
CHAPEL HILL 27514
U OF IOWA 919 966-1061

BRISLEY, JON PHILIP S
618-C HIBBARD DR. 88 00 85
CHAPEL HILL 27514
U OF NC 919 933-5874

BRODEUR, DAVID S
4800 UNIVERSITY DR. #24B 88 00 85
DURHAM 27707
DUKE 919 493-6718

BROMBERG, PHILIP ALLAN IM /PUD AC
724 CLI. SCI. BLDG. 229-H 53 68 81
UNC, DIV. PULMONARY DISEASE
CHAPEL HILL 27514
HARVARD 919 966-2531

BROOKS, CLYDE LONG, JR. IM R
934 HUNSWOOD LANE 85 00 82
CHARLOTTESVILLE, VA 22901
U OF NC 804 293-8569

BROSKIE, NANCY ELAINE S
K-12 THE VILLAGES APTS. 91 00 85
CARRBORO 27510
U OF NC 919 966-0615

BROWN, DAVID WARREN IM AC
891 W. WILLOW DRIVE 67 68 81
CHAPEL HILL 27514
U OF ROCHESTER 919 942-5123

BROWN, HOWARD RICHARD ORS R
4006 WESTFIELD DR. 84 84 84
DURHAM 27705
U OF CA-IRVINE 919 383-1617

BROWN, MICHAEL W. U AC
4518 CHESHIRE CT. 80 85 87
DURHAM 27705
NORTHWESTERN U 919 684-2033

BROWN, SUSAN EVANS FP AC
5501 FORTUNE'S RIDGE, STE. A 76 77 86
DURHAM 27713
GEORGETOWN U 919 493-8877

BROWN, TERRY MICHAEL P R
134 LOBLOLLY LANE 84 84 84
CHAPEL HILL 27514
DES MOINES OST 919 967-2590

BROWNLEE, ROBERT CALVIN PD AC
111 SILVER CEDAR COURT 45 45 81
CHAPEL HILL 27514
VANDERBILT U 919 929-0461

32. DURHAM-ORANGE COMPONENT SOCIETY (Continued)

BRUCH, RICHARD FRANKLIN ORS /GER AC
TRIANGLE ORTHOPAEDIC ASSOC. 72 73 77
2609 N. DUKE STREET
DURHAM 27704
U OF ILLINOIS 919 471-8431

BRUSINO, FRANCIS GREGORY AN R
3230-J MYRA ST. 83 83 85
DURHAM 27707
ST U OF NY-BUFF 919 489-2732

BRYAN, JAMES ALEXANDER, II IM /HEM AC
NC MEMORIAL HOSPITAL 57 57 65
DEPT. OF MEDICINE
CHAPEL HILL 27514
U OF PENN 919 966-2268

BUCHANAN, ROBERT A., JR. CD /IM AC
2609 N. DUKE ST., STE 403 69 69 74
DURHAM 27704
BOWMAN GRAY 919 471-8441

BUCKLEY, EDWARD GEORGE OPH /PD AC
BOX 3802, DUKE EYE CENTER 77 78 79
DURHAM 27705
DUKE 919 684-6084

BUCKWALTER, JOSEPH ADDISON GS AC
NCMH, DEPT. OF SURGERY 44 44 71
CHAPEL HILL 27514
U OF PENN 919 966-4220

BUGG, EVERETT IRVING, JR. ORS L
RT. #2, BOX 143 37 38 46
PITTSBORO 27312
JOHNS HOPKINS 919 286-1249

BULLARD, DENNIS EUGENE NS AC
BOX 3128, DUMC 75 75 83
DURHAM 27710
ST LOUIS U 919 684-2766

BUNCE, PAUL LESLIE U L/RT
ROUTE #7, BOX 646 42 52 52
CHAPEL HILL 27514
U OF CHICAGO 919 933-8766

BURHANS, ROLLIN SCOFIELD, JR. GS AC
1830 HILLANDALE ROAD 63 63 71
DURHAM 27705
U OF LOUISVILLE 919 383-5531

BURNHAM, STEVEN JAMES GS AC
UNC, DEPT. OF VS 72 72 79
229-H CLINICAL SCIENCE BLDG.
CHAPEL HILL 27514
VANDERBILT U 919 966-3391

BURNS, WALTER WOODROW, JR. GS AC
901 WILLOW DRIVE 69 72 76
CHAPEL HILL 27514
U OF NC 919 967-8258

BURTON, CLAUDE SHREVE,III D /IM AC
BOX 3511, DUMC 79 81 84
DURHAM 27710
DUKE 919 684-5037

BUSER, STEVEN DONALD S
1707 WARD ST. 89 00 86
DURHAM 27707
DUKE 919 493-3046

BUSH, JANICE KAREN PD /ADL AC
137 ESSEX DR. 80 83 86
CHAPEL HILL 27514
U OF ALABAMA 919 248-2459

BUSSE, EWALD WILLIAM P /GER AC
BOX 2948, DUMC 42 53 54
DURHAM 27710
WASHINGTON U 919 684-3416

BUTTS, JOHN DAVIS, JR. FOP AC
OFF.OF CHIEF MEDICAL EXAMINER 72 73 79
CHAPEL HILL 27514
DUKE 919 966-2253

BYNUM, DONALD K., JR. ORS /HS AC
245 BURNETT-WOMACK BLDG. 229-H 76 76 83
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514
U OF TX-HOUSTON 919 966-2030

CALDWELL, DAVID STEWART RHU /IM AC
BOX 2978, DUMC 71 71 77
DURHAM 27710
BOWMAN GRAY 919 684-3313

CALLAWAY, JASPER LAMAR D L/RT
DUKE UNIV. MED. CTR. 32 32 37
DURHAM 27710
DUKE 919 684-3432

CALTON, WILLIAM CUYLER, JR. S
3625 MANFORD DR. 88 00 84
DURHAM 27707
DUKE 919 493-5372

CAMPBELL, JEFFREY PAUL S
APT. 16 HOLLAND DR. 88 00 85
CHAPEL HILL 27514
U OF NC

CAMPBELL, PAUL THOMAS R
1321 NEW CASTLE RD. APT. A-13 85 85 85
DURHAM 27704
TEMPLE U 919 471-9244

CARNEY, CHARLES NOEL PTH AC
UNC, DEPT. OF PATHOLOGY 63 63 71
CHAPEL HILL 27514
U OF ALABAMA 919 966-4676

CARR, DAVID RUDDLE S
5407 SW 80TH TERR. 87 00 84
GAINESVILLE, FL 32608
DUKE

CARR, JOHN FERGUSON, II D AC
1200 BROAD ST. 68 68 76
DURHAM 27705
U OF TENNESSEE 919 286-7903

CARROLL, BARBARA ANNE R AC
P. O. BOX 1357 72 73 85
HILLSBOROUGH 27278
STANFORD U 919 684-2711

CARSON, CULLEY CLYDE, III U AC
BOX 3274, DUMC 71 72 79
DURHAM 27710
GEO WASHINGTON U 919 684-2127

CARSON, SHANNON STEWART S
42-A STRATFORD HILLS APTS. 89 00 86
CHAPEL HILL 27514
U OF NC 919 968-8231

CARTER, JAMES HARVEY P AC
BOX 3106, DUMC 66 66 79
DURHAM 27710
HOWARD U 919 684-6102

CARVER, DONALD D. S
218 CONNER DR. APT. 24 89 00 87
CHAPEL HILL 27514
U OF NC 919 968-6403

CARVER, GORDON MALONE, JR. TS /GS AC
114 CRUTCHFIELD ST. 48 50 56
DURHAM 27705
DUKE 919 286-1245

CASEY, MARY FRANCES S
210 CEDARWOOD LANE 89 00 85
CARRBORO 27510
U OF NC 919 942-4799

CATO, ALLEN EASLEY, JR. PD /PUD AC
3030 CORNWALLIS RD. 69 69 77
RESEARCH TRIANGLE PK 27709
DUKE 919 248-4537

CAVALLO, MARTYN J. S
130-N E. LONGVIEW RD. 90 00 86
CHAPEL HILL 27514
U OF NC 919 942-2342

CAVENESS, MICHAEL BRYAN S
1453-B CAMERON COURT 87 00 84
WILMINGTON 28401
U OF NC

CECH, ALEX CHARLES S
BOX 2710, DUMC 89 00 85
DURHAM 27710
DUKE 919 383-8355

CEFALO, ROBERT CHARLES OBG /NPM AC
430 LAKESHORE LANE 59 61 81
CHAPEL HILL 27514
TUFTS U 919 966-1601

CHAMBERLIN, HARRIE ROGERS PD L/RT
UNC, DEPT. OF PEDIATRICS 45 53 53
CHAPEL HILL 27514
HARVARD 919 966-5171

CHAN, KRAMMIE M. S
1424-D2 WYLDEWOOD RD. 90 00 86
DURHAM 27704
DUKE 919 477-3083

CHANDLER, ARTHUR CECIL, JR. OPH AC
1830 HILLANDALE ROAD 59 59 66
DURHAM 27705
DUKE 919 383-5531

CHAPMAN, SHELLEY J. S
UNC-CH 121 MACNIDER BLDG. 90 00 87
CHAPEL HILL 27514
U OF NC 919 722-700

CHEEK, JOHN MERRITT, JR. GS L/R
1414 KENT STREET 45 45 5
DURHAM 27707
BOWMAN GRAY 919 489-124

CHERRY, JEAN MICHELE S
38-C LAUREL RIDGE 90 00 87
HWY. 54
CHAPEL HILL 27514
U OF NC 919 968-084

CHIMIAK, JAMES MICHAEL S
303 EFFINGHAM ST. APT. 4J 87 00 85
PORTSMOUTH, VA 23704
U OF NC 919 395-684

CHOW, CAROLINE CHIA-LIN S
311 S. LASALLE ST.# 50P 89 00 86
DURHAM 27705
DUKE 919 286-415

CHOW, GREGORY HENKUO S
#9 GEORGETOWN CT. 88 00 84
DURHAM 27705
DUKE 919 383-684

CHRISTAKOS, ARTHUR CHRIS GYN AC
BOX 2976, DUMC 55 64 6
DURHAM 27710
MED U OF SC 919 684-464

CHRISTENSEN, FRANK HOWARD OPH /PS AC
109 CONNER DR., STE. 2207 76 76 8
CHAPEL HILL 27514
ST LOUIS U 919 933-129

CHURCHILL, CAROL ANN S
100-A TALL OAKS RD. 89 00 85
CHAPEL HILL 27514
U OF NC 919 967-076

CLAPP, JAMES ROBERT IM /NEP AC
BOX 2991, DUMC 57 57 8
DURHAM 27710
U OF NC 919 684-667

CLARK, CHARLES EDWARD, III OTO AC
2609 N. DUKE ST. STE. 306 68 69 7
DURHAM 27704
U OF MICHIGAN 919 471-870

CLARK, DOUGLAS WINSTON PD AC
306 S. GREGSON ST. 83 85 8
DURHAM 27701
U OF NC 919 688-634

CLARK, RICHARD LEE DR AC
ROUTE #4, BOX 529 66 66 7
CHAPEL HILL 27514
JOHNS HOPKINS 919 966-440

CLARK, THOMAS BOYLE, III PTH R
P. O. BOX 2951 83 84 8
DURHAM 27705
MED U OF SC 919 684-330

CLARK, VIVIAN E. GYN AC
PO BOX 3317 81 82 8
CHAPEL HILL 27514
BOSTON U 919 942-857

CLEMENTS, DENNIS ALFRED, III PD /ID R
119 WISTERIA DR. 73 74 7
CHAPEL HILL 27514
U OF ROCHESTER 919 684-661

CLINE, JOHN WILLIAM OPH AC
1110 W. MAIN STREET 58 63 6
DURHAM 27701
MED COLL OF VA 919 682-934

CLIPPINGER, FRANK WARREN, JR. ORS AC
BOX 3935, DUMC 52 54 5
DURHAM 27710
WASHINGTON U 919 684-422

CLYDE, WALLACE ALEXANDER, JR. PD /ID AC
UNC SCHOOL OF MEDICINE 229-H 54 55 6
535 BURNETT-WOMACK CLI SC BLDG
CHAPEL HILL 27514
VANDERBILT U 919 966-233

COBO, LIONEL MICHAEL OPH AC
BOX 3802, DUKE EYE CTR. 75 78 8
DURHAM 27710
HARVARD 919 684-379

32. DURHAM-ORANGE COMPONENT SOCIETY (Continued)

)GGINS, DAVID ALLEN S
3233-G PARK ROAD 87 00 85
CHARLOTTE 28209
J OF NC 919 967-7511

)HAN, RICHARD HARRIS DR AC
) RABBITS GLEN TERRACE 79 81 86
)URHAM 27713
NEW YORK U 919 681-2711

)HEN, KENNETH LEE OPH AC
JNC, DEPT. OF OPHTHALMOLOGY 71 72 79
317 CLINICAL SCI. BLDG. 229-H
CHAPEL HILL 27514
J OF ILLINOIS 919 966-5296

)HEN, MYRON SCOTT ID AC
JNC,547 BURNETT-WOMACK, 229-H 74 74 85
CHAPEL HILL 27514
RUSH MED COLL 919 966-2536

)HEN, SUSAN RAY S
208 HOWELL ST. 88 00 85
CHAPEL HILL 27514
J OF NC 919 933-9444

)LE, JACK MARTIN S
)-7 BERKSHIRE MANOR APTS. 88 00 85
CARRBORO 27510
J OF NC

)LE, TOLLIE BOYCE OTO AC
BOX 3805, DUMC 62 62 69
)URHAM 27710
J OF NC 919 684-6819

)LEMAN, RALPH EDWARD NM AC
)UMC, DEPT. OF RADIOLOGY 68 68 83
)URHAM 27710
WASHINGTON U 919 681-5454

)LES, DEBRA LYNN FP S
212 MCCAULEY ST. 1-B 88 00 85
CHAPEL HILL 27514
J OF NC 919 968-1909

)LEY, ELWOOD BROGDEN PD AC
3500 WESTGATE DR. STE.701 52 52 55
)URHAM 27707
J OF PENN 919 493-8608

)LEY, SILAS BODIE, JR. P /N AC
315 KENMORE ROAD 65 65 69
CHAPEL HILL 27514
J OF NC 919 929-0326

)LLIER, ALBERT MILFORD PD /ID AC
JNC, 535 CLINICAL SCIENCE BLDG 63 63 72
CHAPEL HILL 27514
J OF MIAMI 919 966-2331

)OK, DAVID MARTIN S
117 OAK ST. 90 00 87
CARRBORO 27510
J OF NC 919 968-9933

)OK, PERRY FLETCHER S
2306 WILSON STREET 80 00 85
)URHAM 27705
)UKE 919 286-2389

)OK, WESLEY ALLEN, JR. NS AC
)UMC, DIV. OF NEURO-SURGERY 63 63 72
)URHAM 27710
J OF OREGON 919 684-3582

)ONRAD, RALPH WOODWARD ORS /HS AC
1828 HILLANDALE ROAD 47 50 55
)URHAM 27705
)UKE 919 286-1249

)OPER, HERBERT A. PHO /CLP AC
JNC, DEPT. OF PEDIATRICS 64 65 76
BURNETTE-WOMACK BLDG. 229-H
CHAPEL HILL 27514
J OF KANSAS 919 966-1178

)OPER, RANDOLPH A. S. IM /HEM S
#6 LANDOVER CT. 87 00 85
)URHAM 27713
)UKE 919 489-5643

)PPRIDGE, ALTON JAMES U AC
923 BROAD STREET 53 53 59
)URHAM 27705
J OF VIRGINIA 919 286-1297

)RLEY, MARK R. OPH R
2300 KATI COURT, STE. C 83 00 87
SHELTON, WVA 98584
J OF TEXAS

COUNDOURIOTIS, ANDREW S
1408 WASHINGTON ST. 87 00 85
DURHAM 27701
DUKE 919 683-2785

COVEY, JONATHAN BALDRIDGE S
P-2 OLD WELL APTS. 88 00 85
501 JONES FERRY RD.
CARRBORO 27510
U OF NC 919 942-5477

COVINGTON, DONALD SCOTT S
136-A PUREFOY RD. 89 00 85
CHAPEL HILL 27514
U OF NC

COX, JOHN BALDWIN PUD /IM R
4511 ROLLINGWOOD DR. 83 86 86
DURHAM 27713
GEO WASHINGTON U 919 493-4674

COX, PATRICIA MARY S
3004 UNIVERSITY DR. 88 00 86
DURHAM 27707
DUKE 919 489-0179

CRAIN, BARBARA JEAN PTH AC
106 FOXRIDGE COURT 79 79 85
CHAPEL HILL 27514
DUKE 919 286-0411

†CRANE, GEORGE LEVERING IM L
1200 BROAD STREET 40 42 47
DECEASED - 3-23-87
DURHAM 27705
CORNELL U 919 286-4889

CRANE, GEORGE WILLIAM, JR. D AC
1200 BROAD STREET 46 49 49
DURHAM 27705
NORTHWESTERN U 919 286-7903

CRANE, LARRY MARTIN DR AC
24 CHANCERY PLACE 68 68 74
DURHAM 27707
BAYLOR 919 470-5289

CROMARTIE, WILLIAM JAMES ID L
804 FLOB 23L-H/DEPT.MIC.& IMMU 37 37 43
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514
EMORY U 919 966-5925

CROOM, ROBERT DEVANE, III GS AC
NCMH, DEPT. OF SURGERY 64 64 74
CHAPEL HILL 27514
U OF NC 919 966-4416

CROSS, ALAN WHITTEMORE PD /GPM AC
CLINICAL SCIENCES BLDG. 70 75 80
UNC, DEPT. OF PEDIATRICS
CHAPEL HILL 27514
COLUMBIA U 919 962-1136

CROW, LAURA LOMAX R
202 TALLYHO TRAIL 85 85 84
CHAPEL HILL 27514
U OF NC 919 966-4131

CRUTCHER, KENNETH L. R
1005 ALABAMA AVE. 84 85 87
DURHAM 27705
DUKE 919 286-7574

CULTON, YANCEY GOELET, JR. GYN AC
2609 N. DUKE ST. STE. 503 56 56 68
DURHAM 27704
DUKE 919 471-6832

CUNANAN, ANNE REGINA S
102 DUNEDIN CT. 88 00 85
CARY 27511
U OF NC 919 467-0307

CURNES, JOHN TAYLOR R AC
UNC DEPT. OF RADIOLOGY 78 78 86
CHAPEL HILL 27514
TULANE U 919 966-3084

CUTSON, TONI MICHELE FP /IM AC
#9 GORHAM PLACE 80 81 85
DURHAM 27705
MED COLL OF VA

CUTTINO, JOHN TINDAL, JR. R AC
UNC, DEPT. OF RADIOLOGY 71 71 79
CHAPEL HILL 27514
U OF NC 919 966-3084

D'ERCOLE, AUGUSTINE J. PDE /NPM AC
BURNETT-WOMACK BLDG. 229-H 69 69 79
UNC, DEPT. OF PEDIATRICS
CHAPEL HILL 27514
GEORGETOWN U 919 966-4435

DAHNERS, LAURENCE E. ORS AC
UNC, ORTHOPAEDIC SURGERY 78 79 84
237 BURNETT-WOMACK BLDG.229H
CHAPEL HILL 27514
U. OF ARIZONA 919 966-2039

DALLDORF, FREDERIC GILBERT PTH AC
308 WOODHAVEN RD. 58 65 66
CHAPEL HILL 27514
CORNELL U 919 966-4541

DALTON, JAMES D., JR. S
311 S. LASALLE ST. APT. 5-E 90 00 86
DURHAM 27705
DUKE 919 286-9753

DALY, JOHN T. PTH /FOP AC
P. O. BOX 15337 68 69 78
DURHAM 27704
CORNELL U 919 477-6742

DANFORD, JERRY LEE GYN AC
1830 HILLANDALE ROAD 67 67 72
DURHAM 27705
DUKE 919 383-5531

DANIEL, JOHN THOMAS, JR. GS AC
415 DUNSTAN STREET 64 64 72
DURHAM 27707
HOWARD U 919 682-7378

DANIS, MARION IM AC
UNC DEPT. OF MEDICINE 75 78 86
5025-A OLD CLINIC BLDG.
CHAPEL HILL 27514
U OF CHICAGO 919 966-2276

DAVIDSON, ROBERT CLABAUGH S
BOX 2718, DUMC 89 00 86
DURHAM 27710
DUKE 919 383-5047

DAVIS, JAMES EVANS GS /TS AC
2609 N. DUKE ST., STE. 402 43 43 51
DURHAM 27704
U OF PENN 919 471-8439

DAVIS, JAMES NORMAN N AC
V. A. MEDICAL CTR., NEUROLOGY 65 65 84
DURHAM 27705
CORNELL U 919 286-6956

DAVIS, KEITH ALAN S
102 RAINBOW DR. 88 00 86
CARRBORO 27510
U OF NC 919 968-1728

DAVIS, WALTER ETCHELLS ON /HEM AC
1830 HILLANDALE ROAD 66 66 75
DURHAM 27705
DUKE 919 383-5531

DAWSON, ROBERT EDWARD OPH AC
512 SIMMONS STREET 43 43 69
DURHAM 27701
MEHARRY MED COLL 919 682-7175

DE ANGELIS, WASHINGTON JULIO FP /DIA AC
1001 S. HAMILTON ROAD 59 59 71
CHAPEL HILL 27514
U OF URUGUAY 919 968-4551

DE JUAN, EUGENE, JR. OPH AC
BOX 3802, DUKE EYE CENTER 79 80 85
DURHAM 27710
U OF SOU ALA 919 684-5631

DEES, JOHN ESSARY U L/RT
DUKE HOSPITAL 33 33 40
DURHAM 27710
U OF VIRGINIA 919 684-6928

DEES, SUSAN COONS PDA /PD L
BOX 2913, DUMC 34 34 41
DURHAM 27710
JOHNS HOPKINS 919 684-2933

DENNY, FLOYD WOLFE, JR. PD /ID AC
BOX 3, WING D, 208-H 46 61 61
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514
VANDERBILT U 919 962-1136

DEWALT, JOSEPH LEO IM /ORS AC
IRIS LANE 54 54 59
CHAPEL HILL 27514
U OF NC 919 966-2281

DIMMIG, THOMAS A. ORS AC
2609 N. DUKE ST. 76 77 84
DURHAM 27704
DUKE 919 471-8431

32. DURHAM-ORANGE COMPONENT SOCIETY (Continued)

DINAPOLI, RAPHAEL JOSEPH, JR. PH /AM AC
1985 UMSTEAD DR. 59 64 81
DIV. OF MEDICAL ASSISTANCE
RALEIGH 27603
DOWNSTATE ME CTR 919 733-2393

DINGFELDER, JAMES RAY OBG AC
700 EASTOWNE DR., STE. 200 65 66 72
CHAPEL HILL 27514
JEFFERSON 919 942-4100

DINOME, ANTHONY JOSEPH, JR. S
27 12TH AVE. 87 00 86
SEA CLIFF, NY 11579
U OF NC

DONOHUE, JAMES FRANCIS PUD /IM AC
UNC, 724 BURNETT-WOMACK 69 69 84
CHAPEL HILL 27514
MED SCH-UMDNJ 919 966-2531

DOUGLAS, W. LADELL PD /ADL AC
2609 CARVER STREET 74 76 82
DURHAM 27704
GEORGETOWN U 919 471-4484

DOWNS, THOMAS WM. S
3-C ESTEA PARK 90 00 86
CARRBORO 27510
U OF NC 919 942-2780

DRAFFIN, RICHARD MARION PTH AC
3643 N. ROXBORO STREET 75 77 83
DURHAM 27704
DUKE 919 470-5251

DROEGEMUELLER, WILLIAM GYN AC
908 WOODBINE DR. 60 61 85
CHAPEL HILL 27514
U OF COLORADO 919 966-5281

DROSSMAN, DOUGLAS ARNOLD GE /PYM AC
UNC, 324 CLINICAL SCIENCE BLDG 70 71 79
CHAPEL HILL 27514
ALBERT EINSTEIN 919 966-2511

DRUCKER, JOAN LIVERSIDGE ID AC
3909 HOPE VALLEY RD. 80 80 83
DURHAM 27707
U OF VIRGINIA 919 684-2660

DUDLEY, R. ADAMS S
1315 MORREENE RD. APT. 20-B 90 00 87
DURHAM 27705
DUKE 919 383-6387

DUNPHY, DONAL LEO PD AC
UNC, DEPT. OF PEDIATRICS 44 45 74
CHAPEL HILL 27514
YALE 919 966-2504

DUTTON, JONATHAN JOSEPH OPH /ON AC
BOX 3802, DUKE EYE CENTER 77 77 83
DURHAM 27710
WASHINGTON U 919 684-3142

DYKE, CORNELIUS MCKOWN S
BOX 2722, DUMC 87 00 85
DURHAM 27710
DUKE 919 493-7104

EARNHARDT, RICHARD CRAIG S
2836 CHAPEL HILL RD. APT. 30-B 89 00 85
DURHAM 27707
DUKE 919 493-7968

EARP, HENRY SHELTON, III END /IM AC
UNC, DEPT. OF MEDICINE 70 71 79
CHAPEL HILL 27514
U OF NC 919 966-3338

EASLEY, ELEANOR BEAMER GYN /OBS L/RT
141 CAROL WOODS 34 40 40
CHAPEL HILL 27514
DUKE 919 968-8229

EASON, PAUL RICHARD S
1201-A HOLLOWAY LANE 88 00
CHAPEL HILL 27514
U OF NC 919 933-5006

EASTERLING, WILLIAM E., JR. GYN /END AC
UNC SCHOOL OF MEDICINE 56 56 64
CHAPEL HILL 27514
U OF NC 919 966-5214

EATON, ALEXANDER MELLON S
BOX 2723, DUMC 87 00 85
DURHAM 27710
DUKE 212 289-5639

EBELING, JAMES GERARD IM R
3742 SWARTHMORE RD. 85 00 82
DURHAM 27707
DUKE 919 471-2044

EDELBERG, JAY MARSHALL S
BOX 2730, DUMC 89 00 85
DURHAM 27710
DUKE 919 286-7394

EDKINS, PATRICIA TEAGUE TR AC
RT. #4, BOX 357 80 81 78
CHAPEL HILL 27514
U OF NC 919 966-1101

EHLE, ALBERT LAWRENCE N AC
UNC, 751 BURNETT-WOMACK 67 72 83
CHAPEL HILL 27514
U OF WASHINGTON 919 966-3707

EIFRIG, DAVID ERIC OPH AC
UNC, DEPT. OF OPHTHALMOLOGY 60 60 80
CHAPEL HILL 27514
JOHNS HOPKINS 919 966-5296

ELKORDY, MAHA ABDUL-HAFEZ S
12E SHARON HEIGHTS 88 00 84
CHAPEL HILL 27514
U OF NC 919 942-7699

ENRIGHT, KATHERINE ANNE IM R
BOX 3099, DUMC 85 85 84
DURHAM 27710
DUKE 919 684-2675

ESTES, EDWARD HARVEY, JR. IM /CD AC
407 CRUTCHFIELD ST. 47 53 53
DURHAM 27704
EMORY U 919 471-2571

EVANS, JOSEPHINE ADAMSON S
1010 DEMERIUS ST. 89 00 86
DURHAM 27701
DUKE 919 688-5730

FAIRCHILD, KAREN DIANE S
4012 HILLGRAND DR. 89 00 85
DURHAM 27705
DUKE 919 383-5160

FALLETTA, JOHN MATTHEW PHO AC
BOX 2916, DUMC 66 67 79
DURHAM 27710
U OF KANSAS 919 684-3401

FARMER, JOSEPH C., JR. OTO /OT AC
DUKE, DEPT. OF SURGERY 62 62 70
DURHAM 27710
DUKE 919 684-6357

FARMER, THOMAS WOHLSEN N /IM L
UNC SCHOOL OF MEDICINE 41 52 52
751 BURNETT-WOMACK BLDG 229-H
CHAPEL HILL 27514
HARVARD 919 966-2526

FEESER, SCOTT ALAN S
4800 UNIVERSITY DR. #27E 90 00 87
DURHAM 27707
DUKE 919 493-0433

FERGUSON, BERRYLIN JUNE OTO R
2620 MCDOWELL ST. 80 85 85
DURHAM 27705
DUKE 919 684-6872

FERGUSON, GEORGE BURTON OTO L
1110 W. MAIN STREET 32 32 38
DURHAM 27701
JEFFERSON 919 682-9341

FERNALD, GERALD WALLACE PD /ID AC
N. C. MEMORIAL HOSPITAL 60 60 68
CHAPEL HILL 27514
U OF NC 919 966-2069

FETTER, BERNARD FRANK PTH AC
DUKE UNIV. MEDICAL CENTER 44 44 53
DURHAM 27710
DUKE 919 684-3685

FILLIPO, DREW CRAIG S
311 E. PATTERSON PLACE 89 00 85
CHAPEL HILL 27514
U OF NC 919 967-4626

FILSTON, HOWARD CHURCH PDS /GS AC
BOX 3815, DUMC 62 62 78
DURHAM 27710
CASE WESTERN RES 919 684-3478

FINESTONE, DOUGLAS HOWARD PYM/PYA AC
BOX 3889, DUMC 79 79 80
DURHAM 27710
MED COLL OF VA 919 684-3318

FISCHER, JANET JORDAN ID /IM AC
N. C. MEMORIAL HOSPITAL 48 52 52
CHAPEL HILL 27514
JOHNS HOPKINS 919 966-2536

FISCHER, NEWTON D. MFS /OTO A(
UNC SCHOOL OF MEDICINE 45 52 5
CHAPEL HILL 27514
U OF TEXAS 919 966-33

FISHER, SAMUEL RANKIN HNS /OTO A(
BOX 3805, DUMC 75 75 8
DURHAM 27710
DUKE 919 684-42

FITCH, ROBERT DOUGLAS ORS /PDS A(
BOX 2911, DUMC 76 82 8
DURHAM 27710
DUKE 919 684-31

FLANAGAN, BRIAN FRANCIS S
618 MOREHEAD AVE. APT. #1 89 00 8
DURHAM 27707
DUKE 919 383-76

FLEMING, WILLIAM LEROY GPM /IM L/F
UNC, DEPT. OF FAMILY MED. 32 32 4
CHAPEL HILL 27514
VANDERBILT U 919 966-57

FLETCHER, JOHN DAVID PH /PD A(
5244 INVERNESS DRIVE 59 60 6
DURHAM 27712
U OF VIRGINIA 919 688-80

FLETCHER, ROBERT HILLMAN IM /PH A(
UNC, DEPT. OF MEDICINE 66 68 7
CHAPEL HILL 27514
HARVARD 919 966-12

FLETCHER, SUZANNE WRIGHT IM /PH A(
UNC, DEPT. OF MEDICINE 66 66 7
CHAPEL HILL 27514
HARVARD 919 966-22

FLICK, CONRAD L. S
BOX 2734, DUMC 89 00 8
DURHAM 27710
DUKE

FLOREK, GERY KENT N /ON F
BOX 3963, DUMC 82 82 8
DURHAM 27710
NORTHWESTERN U 919 684-26

FLOYD, WALTER LAWRENCE CD /IM A(
BOX 2997, DUMC 54 56 5
DURHAM 27710
JOHNS HOPKINS 919 684-28

FORDHAM, CHRISTOPHER C., III IM /NEP A(
UNC, 103 SOUTH BLDG. 005-A 51 51 7
CHAPEL HILL 27514
HARVARD 919 962-13

FORMAN, MARK STUART S
910 CONSTITUTION APT. 717 89 00 8
DURHAM 27705
DUKE

FOSTER, WILLIAM LEICESTER, JR. R A(
DUMC, DEPT. OF RADIOLOGY 74 74 8
DURHAM 27710
DUKE 919 286-04

FOULKS, GARY NEAL OPH A(
BOX 3802, DUKE UNIV. EYE CTR. 70 71 7
DURHAM 27710
COLUMBIA U 919 684-64

FOWLER, JOHN ALVIS PYA /CHP A(
2721 SPENCER ST. 46 46 5
DURHAM 27705
BOWMAN GRAY 919 684-30

FOX, ELISABETH JUNE AN A(
BOX 3083, DUMC 55 67 7
DURHAM 27710
U OF LONDON 919 681-35

FRANCE, RANDAL DENNIS P /PYM A(
DUMC, DEPT. OF PSYCHIATRY 73 76 7
DURHAM 27710
U OF TEXAS 919 684-55

FRANK, JAMES LAWRENCE ORS A(
1828 HILLANDALE ROAD 65 65 7
DURHAM 27705
DUKE 919 286-12

FREEMAN, DAVID FRANKLIN PYA /CHP A(
ASHE PLACE 51 61 6
CHAPEL HILL 27514
BOWMAN GRAY 919 942-48

FRICK, DONNA ELLIOTT P A(
109 CONNER DR.,BLDG #3,STE.203 74 74 8
CHAPEL HILL 27514
U OF NC 919 933-56

32. DURHAM-ORANGE COMPONENT SOCIETY (Continued)

IED, FLOYD ALAN U AC
JNC, DEPT. OF SURGERY 61 61 71
CHAPEL HILL 27514
U OF CHICAGO 919 966-2571

IED, MICHAEL DAVID OBG AC
CONNER DRIVE PROF. BUILDING 71 73 77
CHAPEL HILL 27514
NEW YORK U 919 544-3591

IEDBERG, R. C. S
1622 DELAWARE ST. 88 00 83
DURHAM 27705
DUKE 919 286-3909

IEDMAN, ALLAN HOWARD NS AC
BOX 3807, DUMC 74 80 81
DURHAM 27710
U OF ILLINOIS 919 681-6421

IEDMAN, MITCHELL PUD /IM AC
DIV. OF PULMONARY DISEASES 69 69 77
JNC, DEPT. OF MEDICINE
CHAPEL HILL 27514
U OF MIAMI 919 966-2532

OHBOSE, FREDERICK ALEXANDER S
RT. #1, BOX 93-E 89 00 85
CHAPEL HILL 27514
U OF NC 919 929-3592

OTHINGHAM, THOMAS ELIOT PD /ID AC
BOX 3937, DUMC 51 55 74
DURHAM 27710
HARVARD 919 684-6870

UCHT, DAVID MARTIN S
38-C DUKE MANOR APTS. 90 00 87
DURHAM 27705
DUKE 919 286-4515

Y, TERRY LENTZ OTO /HNS AC
JNC, 610 CLINICAL SCI. 229-H 73 74 80
CHAPEL HILL 27514
U OF NC 919 966-3341

LLER, CORODON S., JR. PH /GP L/RT
RT. #1, BOX 61 49 50 56
MORAVIAN FALLS 28654
LA STATE U 919 838-3334

NCIK, THOMAS S
237-D JACKSON CIRCLE 89 00 85
ODUM VILLAGE
CHAPEL HILL 27514
U OF NC 919 933-6737

IRMAN, JEFFREY WILLIAM FP /HYP AC
110 S. ESTES DR. 78 80 85
CHAPEL HILL 27514
U OF CINCINNATI 919 967-8291

ABRIEL, DON ALEXANDER HEM /IM AC
JNC, DIV. OF HEM/ONCOLOGY 72 72 81
CHAPEL HILL 27514
U OF NC 919 966-4431

AGLIANO, MARTHA ELLEN PD R
327 LOUISE CIRCLE 82 85 87
DURHAM 27705
DUKE 919 383-1882

ALL, STANLEY ADOLPH, JR. S
2907 MONROE AVE. 87 00 85
DURHAM 27707
DUKE 919 489-3621

ALLIS, HARRY ANTHONY ID /IM AC
BOX 3306, DUKE HOSPITAL 67 67 82
DURHAM 27710
DUKE 919 684-3279

ALUMBECK, MATTHEW ALAN S
BOX 2883, DUMC 87 00 84
DURHAM 27710
DUKE 919 286-1217

AMMON, WALTER RAY D AC
404 WHITEHEAD CIRCLE 71 71 86
CHAPEL HILL 27514
U OF NC 919 966-3322

ARFUNKEL, JOSEPH MORRIS PD AC
229 HUNTINGTON DR. 48 49 85
CHAPEL HILL 27514
TEMPLE U 919 966-5215

ARRETT, CATHERINE GAELYN S
42-J STRATFORD HILLS APTS. 88 00 85
CHAPEL HILL 27514
U OF NC 919 968-8124

GARRETT, WILLIAM ELWOOD, JR. ORS AC
BOX 3435, DUMC 76 82 83
DURHAM 27710
DUKE 919 684-6658

GARTRELL, DOUGLAS MERVYN S
714 PARK RIDGE RD. APT. B-7 87 87 85
DURHAM 27713
DUKE 919 489-0477

GATES, LAWRENCE KEITH, JR. IM R
1710 VISTA 86 00 83
DURHAM 27701
DUKE 919 471-0705

GEARY, LEON WALLACE PUD /A AC
2609 N. DUKE ST., STE. 504 75 75 82
DURHAM 27704
TEXAS TECH U 919 471-4466

GEORGIADE, GREGORY S. PS /GS AC
BOX 3960, DUMC 74 73 78
DURHAM 27710
DUKE 919 684-3039

GEORGIADE, NICHOLAS GEORGE PS AC
BOX 3098, DUMC 50 51 54
DURHAM 27710
DUKE 919 684-2854

GERATZ, JOACHIM DIETER PTH AC
UNC,DEPT. OF PTH, BBB 228-H 53 59 60
CHAPEL HILL 27514
J.W.GOETHE UNIV. 919 966-4294

GERBE, RONALD WILLIAM OTO /HNS AC
109 CONNER DR. 76 76 82
CHAPEL HILL 27514
U OF NC 919 967-5599

GESZLER, GERIANNE OBG R
5238 N. WILLOWHAVEN DR. 85 00 82
DURHAM 27712
DUKE 919 489-6008

GIANTURCO, DANIEL THOMAS P AC
2925 FRIENDSHIP ROAD 60 66 67
DURHAM 27705
ST U OF NY-BUFF 919 684-4335

GIBSON, JAMES BRUCE S
1500 DUKE UNIV.RD., APT. A-2-A 88 00 79
DURHAM 27701
DUKE

GIFFORD, ALLEN LOTHROP S
615-A HIBBARD DR. 89 00 85
CHAPEL HILL 27514
U OF NC 919 933-5893

GILGOR, ROBERT SAMUEL D AC
891 WILLOW DRIVE 62 62 69
CHAPEL HILL 27514
U OF PENN 919 942-3106

GILMER, PETER WINSTON ORS AC
2609 N. DUKE ST. 80 82 86
DURHAM 27704
U OF VIRGINIA 919 471-8431

GIOANNINI-BROWN, CAROL ANN PTH AC
5009 N. GLEN DRIVE 70 70 85
RALEIGH 27609
ST LOUIS U 919 470-4000

GIRAGOS, JOHN G. P /PYA AC
20 W. COLONY PLACE APT. 260 63 63 75
DURHAM 27705
AMER.U OF BEIRUT 919 493-1810

GITELMAN, HILLEL JONATHAN NEP /IM AC
N. C. MEMORIAL HOSPITAL 58 66 67
CHAPEL HILL 27514
U OF ROCHESTER 919 966-2561

GLASS, PETER STANLEY A. AN AC
BOX 3094, DUMC 76 77 86
DURHAM 27710
U-WITWATERSRAND 919 684-5045

GLASSON, JOHN ORS AC
2609 N. DUKE ST. 43 51 51
DURHAM 27704
CORNELL U 919 471-8431

GO, JOAN MAYCHU S
4 RIVER BIRCH RD., APT. K 90 00 87
DURHAM 27705
DUKE 919 383-7019

GOCKERMAN, JON PAUL ON /HEM AC
DUKE COMP. CARE CTR. 67 71 83
P. O. BOX 3877
DURHAM 27710
U OF CHICAGO 919 684-6283

GOETZL, UGO N /P AC
1830 HILLANDALE ROAD 68 77 80
DURHAM 27705
NEW YORK MED COL 919 383-5531

GOLBY, MARY BLUE IM AC
904 BROAD STREET 53 54 59
DURHAM 27705
GEO WASHINGTON U 919 286-4900

GOLDBERG, JOEL STEVEN AN AC
RT. #1, BOX 2602 77 78 83
HILLSBOROUGH 27278
DUKE 919 443-2125

GOLDBERG, MARC ANDREW S
BOX 2860, DUMC 88 00 84
DURHAM 27710
DUKE 919 383-8675

GOLDNER, JOSEPH LEONARD ORS /HS AC
BOX 3706, DUMC 43 50 50
DURHAM 27710
U OF NEBRASKA 919 684-2628

GOLDNER, RICHARD DOUGLAS ORS /HS AC
BOX 3480, DUMC 74 74 84
DURHAM 27710
DUKE 919 684-6461

GOTTLIEB, JUSTIN L. S
3222 COACHMAN'S WAY 90 00 86
DURHAM 27705
DUKE 919 489-7372

GOTTSCHALK, CARL WILLIAM IM /NEP AC
N. C. MEMORIAL HOSPITAL 45 52 52
CHAPEL HILL 27514
U OF VIRGINIA 919 966-4567

GOULSON, DAN T. S
C-1 FENWAY COURT 89 00 85
CARRBORO 27510
U OF NC 919 920-2128

GRAHAM, JOHN BORDEN PTH /HEM L/RT
UNC SCHOOL OF MEDICINE 42 42 47
CHAPEL HILL 27514
CORNELL U 919 966-4318

GRAHAM, WILLIAM ALEXANDER OBG L/RT
2247 CRANFORD ROAD 32 32 37
DURHAM 27706
U OF PENN 919 489-5214

GRANGER, RONALD EUGENE OBG AC
1821 GREEN STREET 77 78 83
DURHAM 27705
U OF CA-IRVINE 919 286-1250

GRANT, JOHN PALMER GS /NTR AC
BOX 3105, DUMC 69 78 79
DURHAM 27710
U OF CHICAGO 919 684-3314

GRAY, MARY JANE OBG AC
UNC STUDENT HEALTH SERVICE 49 49 77
CHAPEL HILL 27514
WASHINGTON U 919 966-2281

GRAY, TIMOTHY KENNEY END /IM AC
UNC, DEPT. OF MEDICINE 65 65 71
CHAPEL HILL 27514
U OF MARYLAND 919 966-3336

GREEN, ROBERT LEE, JR. P /N AC
FALSTAFF ROAD 46 56 80
HOLLY HILL HOSPITAL
RALEIGH 27610
HAHNEMANN 919 755-1840

GREENE, WALTER BLAIR ORS AC
UNC, 237 BURNETT-WOMACK 72 72 79
CHAPEL HILL 27514
U OF NC 919 966-3691

GREENFIELD, JOS. C., JR. IM /CD AC
BOX 3246, DUMC 56 57 83
DURHAM 27710
EMORY U 919 681-6147

GREENWOOD, ROBERT SAMUEL CHN /PD AC
UNC, 751 CLINICAL SCI. 229-H 68 68 79
CHAPEL HILL 27514
U OF TEXAS 919 966-2528

GREGANTI, MAC ANDREW IM AC
UNC, DEPT. OF IM 72 72 79
CHAPEL HILL 27514
U OF MISSISSIPPI 919 966-2276

GRIFFITHS, MARIAN FOLSOM R
ROUTE #8, BOX 65 82 84 85
CHAPEL HILL 27514
TUFTS U 919 942-2945

32. DURHAM-ORANGE COMPONENT SOCIETY (Continued)

GRIGGS, THOMAS RUSSELL — CD /IM AC
UNC, DEPT. OF MED. & PTH — 69 69 77
CHAPEL HILL 27514
U OF NC — 919 966-5207

GRIM, KENNETH BOYD — PTH /CLP L/RT
124 FIRST ST. NW — 37 37 53
LONG BEACH 28461
U OF VIRGINIA — 919 278-9424

GRIMES, JOHN HARLIN — U AC
2609 N. DUKE ST., STE. 302 — 65 65 71
DURHAM 27704
NORTHWESTERN U — 919 471-8423

GRIMSON, BAIRD SANFORD — OPH AC
UNC, 617 CLINICAL SCI. 229-H — 69 69 77
CHAPEL HILL 27514
DUKE — 919 966-5296

GRIMSON, KEITH SANFORD — GS L/RT
3313 DEVON ROAD — 34 42 42
DURHAM 27707
RUSH MED COLL — 919 489-2241

GRISHAM, JOE WHEELER — PTH /GE AC
UNC, DEPT. OF PTH-228H — 57 57 74
CHAPEL HILL 27514
VANDERBILT U — 919 966-4678

GROSS, ANDREW HARRY — S
71 HOFSTRA DR. — 88 00 85
PLAINVIEW, NY 11803
U OF NC — 919 967-0206

GROSSMAN, HERMAN LEWIS — PDR /PD AC
BOX 3834, DUMC — 53 71 74
DURHAM 27710
COLUMBIA U — 919 681-2711

GROSSNICKLE, MARK EARL — S
3603 CRYSTAL COURT — 88 00 84
DURHAM 27705
DUKE — 919 477-8535

GRUBB, STEPHEN ALLEN — ORS AC
110 S. ESTES DR. — 74 75 83
CHAPEL HILL 27514
NORTHWESTERN U — 919 929-7796

GUAJARDO, CESAR — PYA /P AC
20 W. COLONY PL., STE. 160 — 61 68 78
DURHAM 27705
U DE NUEVO LEON — 919 383-6933

GUALTIERI, CAMILLO THOMAS — P /CHP AC
UNC, DEPT. OF PSYCHIATRY — 69 70 77
CHAPEL HILL 27514
COLUMBIA U — 919 966-5161

GUITERAS, GEORGE PATRICK — FP AC
110 S. ESTES DR., SUITE 205 — 69 69 75
CHAPEL HILL 27514
U OF NC — 919 967-8291

GUNNELLS, JAMES CAULIE — NEP /IM AC
BOX 2991, DUMC — 56 56 79
DURHAM 27710
MED U OF SC — 919 684-5038

GUNTER, JUNE U. — PTH L/RT
1411 N. MANGUM STREET — 36 36 47
DURHAM 27701
JEFFERSON — 919 688-3457

GUNTER, WM. B., JR. — OBG AC
1821 GREEN ST. — 82 83 87
DURHAM 27705
EMORY U — 919 286-1258

GUTMAN, ROBERT ALLAN — NEP /IM AC
2609 N. DUKE ST., STE. 604 — 62 73 83
DURHAM 27704
U OF FLORIDA — 919 477-3005

GWYNNE, JOHN THOMAS — END AC
234 HUNTINGTON DRIVE — 70 72 81
CHAPEL HILL 27514
DUKE — 919 966-3338

HAAS, ALI EKREM — GS R
6 BLUEBERRY HILL — 84 85 86
PITTSBORO 27312
U OF FLORIDA — 919 966-4131

HABEL, DAVID CHRISTOPHER — S
306 BRIAR BRIDGE VALLEY — 88 00 85
CHAPEL HILL 27514
U OF NC — 919 933-8109

HADLER, NORTIN MARVIN — RHU /IM AC
UNC, DEPT. OF MEDICINE — 68 69 75
CHAPEL HILL 27514
HARVARD — 919 966-4191

HALE, LAURA POPE — S
6512 CRAIG ROAD — 90 00 84
DURHAM 27712
DUKE — 919 471-0865

HALE, LESLIE MORGAN — OPH AC
110 CONNER DR. STE. #2 — 61 61 68
CHAPEL HILL 27514
U OF NC — 919 942-8701

HALE, ROBERT VERNON — OPH AC
110 CONNER DR. STE. #2 — 67 67 75
CHAPEL HILL 27514
U OF NC — 919 942-8701

HALL, BRUCE LEE — S
#9 GEORGETOWN CT. — 88 00 85
DURHAM 27705
DUKE — 919 684-6469

HALL, CHARLES DANIEL — S
4800 UNIVERSITY DR. — 90 00 86
5-B BEECH LAKE APTS.
DURHAM 27707
DUKE — 919 493-0448

HALL, COLIN DAVID — N AC
UNC, DEPT. OF NEUROLOGY — 66 73 75
CHAPEL HILL 27514
U OF ABERDEEN — 919 966-5522

HALL, KENNETH DALAND — AN AC
BOX 3094, DUMC — 53 55 61
DURHAM 27710
DUKE — 919 684-3591

HALPERIN, EDWARD CHARLES — TR AC
BOX 3085, DUMC — 79 80 84
DURHAM 27710
YALE — 919 684-3196

HALPERN, EMILY ALYSSA — S
304 CEDARWOOD LN. — 88 00 85
CARRBORO 27510
U OF NC — 919 933-9037

HALVORSEN, ROBERT ALFRED, JR. — DR AC
UNIV. OF MINNESOTA, BOX 292 — 74 75 83
DEPT. OF RADIOLOGY
MINNEAPOLIS, MN 55455
U OF MIAMI — 919 286-0411

HAMBY, GEORGE WALTERS — P AC
DOCTOR'S BUILDING, WILLOW DR. — 58 58 65
CHAPEL HILL 27514
U OF NC — 919 929-6155

HAMMETT, ELLIOTT BRIAN — P AC
V. A. HOSPITAL — 66 66 73
DURHAM 27701
DUKE — 919 286-0411

HAMMOND, CHARLES B. — OBG /END AC
BOX 3853, DUMC — 61 61 69
DURHAM 27710
DUKE — 919 684-3008

HANNA, DONALD PAUL — PS AC
PO BOX 3066 — 79 82 87
DURHAM 27705
WAYNE STATE U — 919 383-7975

HANSEN, ALFRED ROY — EM /FP AC
UNC, BURNETT-WOMACK,229H — 77 77 82
CHAPEL HILL 27514
U OF IOWA — 919 966-5643

HARDAKER, WILLIAM T., JR. — ORS AC
BOX 3956, DUMC — 73 73 84
DURHAM 27710
DUKE — 919 684-5334

HARDY, JAMES JOSEPH — R
DEPT. OF OB/GYN — 85 00 82
N. C. MEMORIAL HOSPITAL
CHAPEL HILL 27514
U OF NC — 919 942-7438

HARE, ROY ALLEN — IM AC
2609 N. DUKE STREET — 45 45 50
DURHAM 27704
BOWMAN GRAY — 919 471-8481

HARGRAVE, RONALD PAUL — EM R
8100 BAYFIELD RD., APT. 25-E — 84 00 82
COLUMBIA, SC 29223
U OF NC — 803 788-2558

HARMAN, LAURA S. — S
207 CONNER DR. APT. 23 — 89 00 86
CHAPEL HILL 27514
U OF NC — 919 967-6791

HARMEL, MEREL HILBER — AN
BOX 3094, DUMC — 43 43
DURHAM 27710
JOHNS HOPKINS — 919 684-2

HARNED, HERBERT SPENCER, JR. — PDC
UNC SCHOOL OF MEDICINE — 45 58
CHAPEL HILL 27514
YALE — 919 966-4

HARPER, JAMES ROBINSON — IM /CD
891 W. WILLOW DRIVE — 60 60
CHAPEL HILL 27514
U OF NC — 919 942-5

HARRELSON, JOHN MILES — ORS /PTH
BOX 3023, DUMC — 65 65
DURHAM 27710
DUKE — 919 684-5

HARRIS, CHARLES ODELL — OBG
2609-B CARVER STREET — 79 80
DURHAM 27705
U OF NC — 919 471-1

†HARRIS, ISAAC EMERON, JR. — CRS L
2836 CHAPEL HILL RD. APT. 17F — 33 33
DURHAM 27707
JEFFERSON — 919 383-5

HARRIS, TYNDALL PEACOCK — IM
P. O. BOX 3118 — 50 51
CHAPEL HILL 27514
DUKE — 919 733-3

HART, LOWELL L. — ON /HEM
1012 PROLOGUE ROAD — 80 83
DURHAM 27712
SYRACUSE — 919 471-2

HART, ROBERT ERIC
C-5 211 CHURCH ST. — 89 00
CHAPEL HILL 27514
U OF NC — 919 967-0

HATCHETT, JOHN FRANKLIN, JR.
UNC, 458 CRAIGE DORMITORY — 87 00
CHAPEL HILL 27514
U OF NC — 919 933-3

HAVOUNDJIAN, HRATCHIA
506 N. GREENSBORO ST., #43 — 87 00
CARRBORO 27510
U OF NC — 301 654-8

HAWKINS, SARALYN REID
BOX 2793, DUMC — 90 00
DURHAM 27710
DUKE — 919 684-6

HAYES, JOHN CHANDLER
8 CEDAR TERRACE — 83 00
CHAPEL HILL 27514
U OF SOU ALA — 919 929-7

HAYWARD, JAMES NEIL — N
UNC,751 CLINICAL SCI. BLDG. — 54 55
CHAPEL HILL 27514
TUFTS U — 919 966-2

HEBERT, MARY ELIZABETH
311 S. LASALLE ST. APT. 8-I — 89 00
DURHAM 27705
U OF NC — 919 383-8

HEDGPETH, EDWARD MCGOWAN — IM L/
P. O. BOX 87 — 31 31
CHAPEL HILL 27514
U OF PENN — 919 933-8

HEDGPETH, EDWARD MCGOWAN, JR. — OPH
1110 W. MAIN STREET — 62 62
DURHAM 27701
U OF NC — 919 682-9

HEIZER, WILLIAM DAVID — IM /GE
UNC, DEPT. OF MEDICINE — 63 63
CHAPEL HILL 27514
JOHNS HOPKINS — 919 966-2

HENDERSON, RICHARD C. — ORS
UNC, 237 BURNETT-WOMACK — 80 81
DIV. OF ORS, 229H
CHAPEL HILL 27514
U OF CHICAGO — 919 966-3

HENDRICKSON, STEVEN CRAIG
BOX 2743, DUMC — 89 00
DURHAM 27710
DUKE — 919 471-0

32. DURHAM-ORANGE COMPONENT SOCIETY (Continued)

ENDRIX, JAMES PAISLEY IM L
925 NEW GARDEN RD. ROOM 803 30 30 39
DECEASED - 1987
GREENSBORO 27410
U OF PENN 919 489-3281

ENLEY, NANCY S. IM AC
3500 WESTGATE DR., STE. 705 82 83 84
DURHAM 27707
U OF NC 919 493-8600

ERBERT, WILLIAM, N.P. OBG /NPM AC
UNC, OB-GYN DEPARTMENT 72 74 79
CHAPEL HILL 27514
BOWMAN GRAY 919 966-1601

ERBST, CHARLES ARTHUR, JR GS /CRS AC
UNC, 136 BURNETT-WOMACK 67 67 74
229-H
CHAPEL HILL 27514
U OF MISSISSIPPI 919 966-5231

ERFKENS, ROBERT JOHN DR AC
BOX 3808, DUMC 74 75 87
MRI SECTION
DURHAM 27710
LOYOLA U 919 681-2711

ERION, JOHN CARROLL HEM /IM AC
N. C. MEMORIAL HOSPITAL 53 53 57
CHAPEL HILL 27514
HARVARD 919 966-4555

ERLONG, JAMES RENE S
618 MOREHEAD AVE. #1 89 00 85
DURHAM 27707
DUKE 919 688-8011

ERRINGTON, ROBERT THOMAS PD /PDC AC
N. C. MEMORIAL HOSPITAL 57 59 68
CHAPEL HILL 27514
U OF WASHINGTON 919 966-4601

ERSHATTER, BRUCE WARREN TR AC
315 BLVD., NE 82 82 85
GEORGIA BAPTIST MEDICAL CTR.
ATLANTA, GA 30312
TULANE U

ERZOG, WILLIAM RAYMOND, JR. IM R
4320 AMERICAN DR., APT. A 82 85 85
DURHAM 27705
DUKE 919 383-8847

EYMAN, ALBERT N /IM L
BOX 3203, DUMC 40 54 55
DURHAM 27710
U OF MARYLAND 919 684-2682

DALGO, HECTOR JESUS DR AC
2609 N. DUKE ST. 76 77 85
DURHAM 27704
GEO WASHINGTON U 919 471-8411

LLERY, CHERYL ANN R
1418 VALLEY RUN 84 00 84
DURHAM 27707
DUKE 919 489-1601

NN, ALBERT RICHARD S
1453-B CAMERON CT. 87 00 86
WILMINGTON 28401
U OF NC 919 967-7511

OBART, SETH GUILFORD, JR. HNS /MFS AC
1830 HILLANDALE ROAD 50 55 55
DURHAM 27705
U OF VIRGINIA 919 383-5531

ODGINS, LEWIS ROGER AN R
33 LANSGATE COURT 85 86 86
DURHAM 27713
DOWNSTATE ME CTR 919 544-2781

OFFMAN, JEFFREY DALE S
214 HAMLIN PARK 89 00 85
CHAPEL HILL 27514
U OF NC 919 968-7604

OFFMAN, KRISTINA MARIE S
13-B TARAWA TERRACE 88 00 86
DURHAM 27705
DUKE 919 383-9290

OFFMAN, RUTH STERLING IM AC
UNC STUDENT HEALTH SERVICE 58 58 77
CHAPEL HILL 27514
TULANE U 919 966-2281

OFFMAN, THEODORE FREDERICK,JR AN AC
ROUTE #4, BOX 286 78 81 83
HILLSBOROUGH 27278
U OF NC 919 470-6180

HOLLAND, GEORGE THOMAS S
1511 ROBINHOOD ROAD 89 00 85
DURHAM 27701
U OF NC 919 682-8733

HOLLENBERG, BENNETT R. DR R
2516-6 CRANBROOK LANE 81 85 86
CHARLOTTE 28207
INDIANA U

HOLLISTER, WILLIAM GRAY P /GPM L/RT
2008 N. LAKESHORE DRIVE 41 65 67
CHAPEL HILL 27514
U OF NEBRASKA 919 966-5277

HOOLE, AXALLA JOHN IM AC
UNC, BOX #2, BLDG. 226-H 64 64 73
CHAPEL HILL 27514
MED U OF SC 919 966-2276

HOOTEN, JAMES PHILMON, JR. ORS S
3535 APOLLO DR. APT. J-213 87 00 85
METAIRE, LA 70003
U OF NC

HOOTEN, MARK TAYLOR S
205-D BOLINWOOD APTS. 90 00 87
500 UMSTEAD
CHAPEL HILL 27514 919 763-0940

HOWARD, JAMES FRANCIS, JR. N AC
UNC,751 CLINICAL SCI. 229-H 74 74 80
CHAPEL HILL 27514
U OF VERMONT 919 966-5522

HOYLE, ROBERT MARK S
ROUTE #4, BOX 69A 88 00 84
RUTHERFORDTON 28139
U OF NC 704 286-3335

HUBBERT, LEROY KARL S
3234-D CALUMET DR. 90 00 87
RALEIGH 27610
U OF NC 919 755-0348

HUDSON, EDWARD VALENTINE OTO AC
1830 HILLANDALE ROAD 62 62 73
DURHAM 27705
BOWMAN GRAY 919 383-5531

HUDSON, WILLIAM RUCKER OTO AC
DUKE UNIV. MED. CTR. 51 51 53
DURHAM 27710
BOWMAN GRAY 919 684-3834

HUDSPETH, DUDLEY ALLEN S
102 ECHO GLEN DR. E-4 87 00 84
WINSTON-SALEM 27106
U OF NC 919 724-6189

HUFFINES, WILLIAM DAVIS PTH /GP AC
UNC, 314 BERRYHILL HALL 219-H 55 55 60
CHAPEL HILL 27514
U OF NC 919 966-1134

HUGHES, JACK U AC
923 BROAD STREET 43 43 50
DURHAM 27705
U OF PENN 919 286-1297

HULKA, JAROSLAV FABIAN OBG /OBS AC
UNC, DEPT. OF OB-GYN 56 67 67
CHAPEL HILL 27514
COLUMBIA U 919 966-5287

HURWITZ, BARRIE J. N /IM AC
BOX 3184, DUMC 68 69 84
DURHAM 27710
U-WITWATERSRAND 919 684-4126

HYER, RANDALL NELMS S
1001 NORWOOD AVE. 91 00 85
DURHAM 27707
DUKE 919 383-8602

IBRAHIM, GEORGE KAISSAR S
11 WILLOWBRIDGE DR. #80 88 00 85
DURHAM 27707
DUKE 919 493-3695

IGLEHART, JAMES DIRK GS /TS AC
BOX 3873, DUMC 75 78 86
DURHAM 27710
HARVARD 919 684-6133

INGE, WELLFORD W., III S
311 S. LASALLE ST. APT. 37B 90 00 86
DURHAM 27705
DUKE 919 286-3311

IRIGARAY, PETER JOSEPH P AC
JOHN UMSTEAD HOSPITAL 55 57 64
BUTNER 27509
NAT U OF MEXICO 919 575-7092

IRION, JAMES CARNEY S
RT. #4, BOX 588, HATCH RD. 88 00 86
CHAPEL HILL 27514
U OF NC 919 967-7729

ISAACS, KIM LUISE IM R
103 POLK'S TRAIL 84 85 84
CHAPEL HILL 27514
U OF NY-ST BROOK 919 968-1597

IVES, DONALD LELAND S
303-B MASON FARM RD. 89 00 85
CHAPEL HILL 27514
U OF NC 919 929-4303

IZLAR, HENRY LEROY, JR. IM /CD AC
306 S. GREGSON STREET 48 53 55
DURHAM 27701
DUKE 919 682-5562

JABLONOVER, MICHAEL RICHARD S
1915 YEARBY ST., APT. G 89 00 86
DURHAM 27705
DUKE 919 684-5681

JABLONOVER, ROBERT STEPHAN S
136-A PUREFOY ROAD 89 00 86
CHAPEL HILL 27514
U OF NC 919 968-0098

JANOWSKY, DAVID S. P AC
UNC, DEPT. OF PSYCHIATRY 64 64 87
231 MEDICAL SCH. WING B 207H
CHAPEL HILL 27514
U OF CALIF-LA 919 966-4738

JASMINE, MARK SCOTT ORS R
88 OAK LEAF LANE 82 84 86
CHAPEL HILL 27514
HARVARD 919 942-2128

JECK, LIDA MORAWETZ P AC
800 EASTOWNE DR., STE. 204 77 81 82
CHAPEL HILL 27514
DUKE 919 493-5329

JEFFRIES, JENNIFER JEAN S
2877 HOSPITAL SOUTH, DUMC 88 00 86
DURHAM 27710
DUKE 919 286-9385

JENNINGS, ROBERT BURGESS PTH /CLP AC
BOX 3712, DUMC 50 50 76
DURHAM 27710
NORTHWESTERN U 919 684-3528

JOHNSON, GEORGE, JR. VS /CDS AC
UNC, DEPT. OF SURGERY 229-H 52 52 59
CHAPEL HILL 27514
CORNELL U 919 966-3391

JOHNSON, MICHAEL DONALD S
RT. #5, BOX 358-GA 88 00 86
CHAPEL HILL 27514
U OF NC 919 929-9775

JOHNSTON, WILLIAM WEBB PTH AC
BOX 3712, DUMC 59 59 71
DURHAM 27710
DUKE 919 684-3587

JONES, CONSTANCE CARPENTER S
415 PRINCE CROSSING 0-5 87 00 86
WEST CHICAGO, IL 60185
U OF NC 919 968-0023

JONES, JAMES DAVID CHP /PD AC
BOX 3115, DUMC 54 55 63
DURHAM 27710
DUKE 919 684-2372

JONES, JOSEPH KEMPTON FP AC
1001 S. HAMILTON ROAD 46 50 50
CHAPEL HILL 27514
DUKE 919 968-4551

JONES, MORRIS ALEXANDER, JR. R AC
3643 N. ROXBORO ST. 59 59 65
DURHAM 27704
U OF NC 919 471-3411

JONES, THOMAS THWEATT GP L/RT
1202 ARNETT 32 34 35
DURHAM 27707
JOHNS HOPKINS 919 489-2115

JORDAN, THOMAS E. OTO R
39 GEORGETOWN COURT 84 84 87
DURHAM 27705
U OF MARYLAND 919 684-6968

JOSEPH, MICHAEL C. PD AC
5716 GENESSEE DR. 76 77 86
DURHAM 27712
U OF CALIFORNIA 919 471-3278

32. DURHAM-ORANGE COMPONENT SOCIETY (Continued)

JOYNER, RAYMOND EDWARD U AC
923 BROAD STREET 68 68 76
DURHAM 27705
BOWMAN GRAY 919 286-1297

JOYNER, WILLIAM STAFFORD FP AC
1001 S. HAMILTON ROAD 52 52 54
CHAPEL HILL 27514
HARVARD 919 968-4551

JURIVICH, DONALD ALBERT IM /GER R
508 FULTON ST. 82 82 86
DURHAM 27710
CHICAGO CO OM 919 286-0411

JUST, PETER WITHAM AN R
ROUTE #3, BOX 157 84 85 85
CHAPEL HILL 27514
U OF CONNECTICUT 919 929-9630

KALAYJIAN, ROBERT WAYNE AN AC
DUMC,DEPT.OF AN,BOX AA3061 71 73 85
DURHAM 27710
U OF CALIFORNIA 919 684-5265

KALLIANOS, JOHN ANDREW R
4800 UNIVERSITY DR. 23M 86 00 83
DURHAM 27707
DUKE 919 493-4308

KAPLAN, DAVID LOUIS D /IM R
3064-A COLONY RD. 81 81 80
DURHAM 27705
BOWMAN GRAY 919 489-1106

KAPLAN, TODD M. S
1315 MORREENE RD. 3-A 89 00 86
DURHAM 27705
DUKE 919 383-3735

KARIS, JOANNES HUBERTUS AN AC
BOX 3071, DUMC 52 56 60
DURHAM 27710
U OF UTRECHT 919 681-6944

KATZ, SAMUEL LAWRENCE PD /ID AC
BOX 2925, DUMC 52 54 69
DURHAM 27710
HARVARD 919 684-3734

KAUFMAN, DAVID GORDON PTH AC
UNC, DEPT. OF PATHOLOGY 68 75 76
CHAPEL HILL 27514
WASHINGTON U 919 966-1396

KAUFMAN, JEFFREY S
311 S. LASALLE ST. APT. 50B 90 00 84
DURHAM 27705
DUKE 919 286-3719

KEAGY, BLAIR ALLEN TS /CDS AC
UNC, 108 BURNETT-WOMACK 70 70 83
229-H
CHAPEL HILL 27514
U OF PITTSBURGH 919 966-3381

KEITHAHN, STEPHEN TIMOTHY S
BOX 2760, DUMC 89 00 86
DURHAM 27710
DUKE 919 493-1678

KELLY, JAMES REGINALD IM AC
306 S. GREGSON STREET 70 76 76
DURHAM 27701
DUKE 919 682-5561

KEMPNER, WALTER IM L/RT
BOX 3099, DUMC 26 43 43
DURHAM 27710
U OF HEIDELBERG 919 684-2675

KENAN, PATRICK DAN OTO AC
DUKE, DIV. OF OTOL. 59 59 65
DURHAM 27710
DUKE 919 684-5238

KENNEDY, REBECCA S. R
315-A BLUERIDGE RD. 86 00 84
CARRBORO 27510
U OF NC 919 929-9861

KERBY, GRACE PARDRIDGE RHU L/RT
164 N. W. 18TH COURT 46 46 50
MIAMI, FL 33125
DUKE

KIFFNEY, GUSTIN THOMAS, JR. OPH AC
1106 HILLANDALE ROAD 55 60 61
DURHAM 27705
ALBANY MED COLL 919 286-9663

KIHLSTROM, BRUCE LEE NS /GS AC
1830 HILLANDALE ROAD 72 73 75
DURHAM 27705
U OF NC 919 383-5531

KILEFF, MOYRA ELEANOR AN AC
403 CLAYTON ROAD 73 74 83
CHAPEL HILL 27514
HUGGINS MED SCH 919 968-0611

KILLAM, ALLEN PAGE OBG /NPM AC
4044 NOTTAWAY 60 60 83
DURHAM 27707
U OF TEXAS 919 684-2876

KING, LOWELL RESTELL U /PD AC
BOX 3831, DUMC 56 56 82
DURHAM 27710
JOHNS HOPKINS 919 684-6994

KING, ROBERT THOMAS, III S
BOX 2879, DUMC 88 00 84
DURHAM 27710
DUKE 919 493-0267

KINNEY, ROBERT BRUCE PTH R
BOX 3712, DUMC 81 85 79
DURHAM 27710
DUKE 919 684-3300

KIRKPATRICK, JOHN STEWART R
704 W. CORNWALLIS RD. 85 85 84
DURHAM 27707
BOWMAN GRAY 919 493-6525

KOEHLER, LISA ANN S
1521 E. FRANKLIN ST. 89 00 86
B-211 FRANKLIN WOODS
CHAPEL HILL 27514
U OF NC 919 933-7515

KOON, CRAWFORD BRYAN DR AC
2609 N. DUKE ST. 70 70 79
DURHAM 27704
U OF NC 919 471-8411

KOOPERSMITH, TINA BETH S
BOX 2764, DUMC 89 00 86
DURHAM 27710
DUKE

KRAYBILL, ERNEST NISSLEY PD /NPM AC
UNC, DEPT. OF PEDIATRICS 62 62 73
CHAPEL HILL 27514
U OF PENN 919 966-5063

KRYSTAL, ANDREW DARRELL S
811 VICKERS AVE. 87 00 85
DURHAM 27701
DUKE 919 688-0577

KU, ANDREW DR R
311 S. LASALLE ST. APT. 36-F 84 00 85
DURHAM 27705
COLUMBIA U 919 681-2711

KUNO, RITSU IM /ID S
CHALET I, GREENE ST. 88 00 85
CHAPEL HILL 27514
U OF NC 919 942-4992

KYLSTRA, JOHANNES ARNOLD PUD /A AC
BOX 2958, DUMC 52 66 79
DURHAM 27710
U OF LEIDEN 919 684-3069

LAMBETH, WILLIAM RICK OBG AC
2609 N. DUKE STREET, STE. 204 74 74 79
DURHAM 27704
BOWMAN GRAY 919 471-8402

LANE, JOHN WESTON OBG AC
2808 GRETMAR DR. 72 76 80
DURHAM 27705
DUKE 919 942-8571

LANG, STEPHEN NORMAN ORS AC
BOX 2919, DUMC 65 65 72
DURHAM 27710
U OF ILLINOIS 919 684-3949

LANGDELL, ROBERT DANA PTH /BLB AC
UNC SCHOOL OF MEDICINE,228-H 48 51 53
CHAPEL HILL 27514
GEO WASHINGTON U 919 966-4333

LANIER, VERNE CLIFTON, JR. PS /GS AC
300 CRUTCHFIELD ST. 66 66 78
DURHAM 27704
VANDERBILT U 919 471-3406

LASSITER, RICHARD EDWARD OBG AC
CONNER DR. PROF. BLDG. 65 65 71
CHAPEL HILL 27514
U OF NC 919 942-8571

LASSITER, TALLY EDWARD, JR. ORS /EM R
210 DACIAN AVE. 82 83 86
DURHAM 27701
HARVARD 919 688-4609

LASSITER, WILLIAM EDMUND NEP /IM
UNC SCHOOL OF MEDICINE 54 54
CHAPEL HILL 27514
HARVARD 919 966-4

LATIMER, HARRISON A.
APT. F-8, CAMELOT VILLAGE 90 00
CHAPEL HILL 27514
U OF NC 919 968-1

LAWRENCE, THOMAS EARL
K-8 TAR HEEL MANOR APTS 87 00
CARRBORO 27510
U OF NC 919 967-3

LE CROY, CHARLES MICHAEL, JR.
134 LANDSBURY DR. 89 00
DURHAM 27707
DUKE 919 493-9

LEE, EDWARD I.
702 N. COLUMBIA ST. 90 00
CHAPEL HILL 27514
U OF NC 919 942-8

LEIDY, LUANN P /CHP
4322 BEECHNUT LANE 82 82
DURHAM 27707
DUKE 919 489-1

LEIGHT, GEORGE STAPLES, JR. GS A
2 SURREY LANE 72 79
DURHAM 27707
DUKE 919 684-6

LERNER, MARK HARRIS
14 MELSTONE TURN 87 00
DURHAM 27707
DUKE 919 489-2

LESESNE, HENRY ROBY GE /IM A
N. C. MEMORIAL HOSPITAL 67 67
CHAPEL HILL 27514
VANDERBILT U 919 966-2

LESLIE, JOHN BRUCE AN A
BOX 3094, DUMC 76 78
DURHAM 27710
DUKE 919 684-6

LESSEY, BRUCE ARTHUR OBG
1303 LAKEWOOD AVE. 84 00
DURHAM 27707
U OF COLORADO 919 489-8

LEUNG, CYRIL YIU-CHUN
6219 MALAGA COURT 87 00
LONG BEACH, CA 90803
DUKE 213 498-3

LEVIN, STUART JEFFREY
0-9 OLD WELL APTS. 88 00
CARRBORO 27510
U OF NC 919 968-1

LEVINE, MELVIN D. PD A
UNC SCHOOL OF MEDICINE 66 66
BSRC 220-H
CHAPEL HILL 27514
HARVARD 919 966-1

LEVINSON, SIDNEY LEONARD GE /IM A
891 W. WILLOW DRIVE 74 75
CHAPEL HILL 27514
CORNELL U 919 942-5

LEVITT, STEPHEN ROBERT P A
500 EASTOWNE DRIVE 76 77
CHAPEL HILL 27514
CASE WESTERN RES 919 942-8

LEVY, STANLEY BENJAMIN D A
891 WILLOW DRIVE 71 72
CHAPEL HILL 27514
GEORGETOWN U 919 942-3

LI, GEORGE IM
3515 GREENBRIER BLVD., 84 00
APT. 14-B
ANN ARBOR, MI 48105
BAYLOR 919 383-9

LIN, JANET CHYNG-JIAU
311 S. LASALLE ST. APT. 40E 89 00
DURHAM 27705
DUKE 919 286-7

LINCOLN, CLINTON ROBERT ORS A
1828 HILLANDALE ROAD 60 63
DURHAM 27705
MED COLL OF VA 919 286-1

32. DURHAM-ORANGE COMPONENT SOCIETY (Continued)

NDSAY, ROBERT BOYD IM L/RT
904 KINGS MILL RD. 40 40 47
CHAPEL HILL 27514
JEFFERSON 919 942-6136

NEBERGER, CATHERINE KUHN S
33 LONGWOOD AVE. #3 87 00 84
BROOKLINE, MA 02146
U OF NC 919 929-1356

NFORS, EUGENE WILLIAM IM AC
306 S. GREGSON ST. 71 71 84
DURHAM 27701
DUKE 919 682-5561

PTON, BARBARA STEINER P AC
2004 N. LAKESHORE DRIVE 43 59 60
CHAPEL HILL 27514
U OF ILLINOIS 919 942-2453

PTON, MORRIS ABRAHAM P /IM L
UNC, BSRC BLDG. 220-H 48 59 60
CHAPEL HILL 27514
U OF CHICAGO 919 966-1456

PTZIN, MYRON BENNETT P AC
UNC STUDENT HEALTH SERVICE 59 65 65
CHAPEL HILL 27514
U OF ROCHESTER 919 966-2281

ST, NOEL DAVID GER /GPM AC
BOX 3003, DUMC 65 67 85
DURHAM 27710
DOWNSTATE ME CTR 919 684-2248

RCHFIELD, JAY ROBERT S
212 MCCAULEY ST. APT. 1-B 89 00 86
CHAPEL HILL 27514
U OF NC 919 968-1909

EWELLYN, CHARLES E., JR. P AC
3550 HAMSTEAD CT. 46 55 56
DURHAM 27707
MED COLL OF VA 919 489-9808

OYD, KERMIT ALVIN S
RT. #5, BOX 305 89 00 86
CHAPEL HILL 27514
U OF NC 919 929-1911

DA, FRANK ALOYSIUS, JR. PD /ID AC
UNC, DEPT. OF PEDIATRICS 60 60 71
CHAPEL HILL 27514
VANDERBILT U 919 966-2504

EHR, WALTER JOSEPH GS AC
2609 N. DUKE ST., STE. 402 63 64 75
DURHAM 27704
CORNELL U 919 471-8439

NDON, WILLIAM LORD PD /PHO AC
306 S. GREGSON STREET 55 55 61
DURHAM 27701
U OF NC 919 688-6349

WE, JAMES EDWARD CDS /GS AC
BOX 3954, DUMC 73 74 84
DURHAM 27710
U OF CALIF-LA 919 684-3235

WERY, WYLIE DONALD S
7016 PROVIDENCE LANE, WEST 87 00 84
CHARLOTTE 27226
U OF NC 919 942-5643

JH, ALBERT HUNG-PEI S
1481 ASHBOURNE DRIVE 00 87
LYNCHBURG, VA 24501
U OF NC

JMB, PHILIP DENNETT AN AC
BOX 3094, DUMC 74 75 79
DURHAM 27710
U OF LONDON 919 681-3883

JRIE, SCOTT NORD S
1711 SHAWNEE ST. 87 00 85
DURHAM 27701
DUKE 919 383-6272

ERLY, MARK ANDREW S
9 GEORGETOWN CT. 88 00 86
DURHAM 27705
DUKE 919 383-9784

LE, CARL BLACKBURN, JR. IM AC
145-A MACNIDER BLDG. 202-H 57 62 64
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514
COLUMBIA U 919 966-5945

NCH, SUE ANN N R
129 WINDSOR CIR. 84 84 86
CHAPEL HILL 27514
U OF UTAH 919 942-8097

MACDONALD, JOEL DOUGLAS S
308 CAROL ST. 89 00 85
CARRBORO 27510
U OF NC 919 967-6776

MACFARLAND, JOSEPH ALFRED GP AC
UNC STUDENT HEALTH SERVICE 67 68 72
CHAPEL HILL 27514
COLUMBIA U 919 966-2281

MACHEMER, CHRISTINE ANNA P AC
BOX 3125, DUMC 59 61 79
DURHAM 27710
U FREIBURG,GERM 919 684-5772

MACHEMER, ROBERT OPH AC
BOX 3802, DUMC 59 68 79
DURHAM 27710
U FREIBURG,GERM 919 684-5846

MAINELLA, PAUL JOSEPH S
20 LINDEN RD. 87 00 84
BARRINGTON, RI 02806
U OF NC

MALEK, NABIL S. AN AC
BOX 3094, DUMC 61 62 86
DURHAM 27710
U OF EIN SHAMS 919 684-3026

MALTBIE, ALLAN ARMSTRONG P /PYA AC
BOX 3837, DUMC 69 70 73
DURHAM 27710
EMORY U 919 684-5217

MANDEL, STANLEY ROBERT GS /TS AC
UNC, DEPT. OF SURGERY 229H 62 62 69
CHAPEL HILL 27514
U OF VIRGINIA 919 966-3391

MANN, CHARLES HAYES OTO AC
1110 S. MAIN STREET 66 68 82
DURHAM 27701
WEST VA U 919 682-9341

MANN, JOHN DOUGLAS N /IM AC
751 CLINICAL SCI. BLDG. 229-H 69 72 76
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514
CORNELL U 919 966-2526

MANNING, ISAAC HALL, JR. IM L
2609 N. DUKE ST. #604 35 38 39
DURHAM 27704
HARVARD 919 286-7635

MANNING, STUART HALL IM AC
2609 N. DUKE ST., STE. 604 76 77 79
CENTRAL MEDICAL PARK
DURHAM 27704
DUKE 919 477-1054

MARQUEZ, FRANCISCO JAVIER R
105 WESKER CIRCLE 80 83 85
DURHAM 27703
919 596-0956

MARSDEN, MARGARET E. FERRITER S
200 WOODCROFT PKWY., #40-B 89 00 85
DURHAM 27713
U OF NC 919 489-8433

MARTIN, HAROLD LUTHER, JR. S
1200 N. GREENSBORO ST. 88 00 85
CARRBORO 27510
U OF NC 919 929-8334

MARTIN, JAMES CICERO, JR. R
VETERANS DR. APT. 7-A 82 82 85
ASHEVILLE 28805
LA STATE U

MARTINEZ, SALUTARIO R AC
DUMC, DEPT. OF RADIOLOGY 60 71 76
DURHAM 27710
U OF HABANA 919 684-2711

MARX, MARILYN GS R
UTMB STATION 1, BOX 45 80 80 81
GALVESTON, TX 77550
RUSH MED COLL 409 761-1875

MATTERN, WILLIAM DOUGLAS NEP /IM AC
N. C. MEMORIAL HOSPITAL 65 65 74
CHAPEL HILL 27514
COLUMBIA U 919 966-2561

MAURO, MATTHEW ANTHONY DR AC
101 CATAWBA COURT 77 78 83
CHAPEL HILL 27514
CORNELL U 919 966-1461

MAURO, PATRICIA MARCHASE D AC
2609 N. DUKE ST. STE. 505 77 78 84
DURHAM 27704
CORNELL U 919 477-2121

MAVROS, SHARON S
411-I DOWNING ST. 89 00 85
DURHAM 27705
DUKE 919 286-4617

MAXFIELD, STEVEN RONALD S
872 LOUISE CIRCLE 89 00 86
DURHAM 27705
DUKE 919 383-0050

MAY, DAVID ALAN S
100-D BERNARD ST. 88 00 84
CHAPEL HILL 27514
U OF NC 919 929-3078

MAYER, EUGENE STEPHEN GPM AC
UNC, 221H,WING C,BOX 3 64 64 73
CHAPEL HILL 27514
COLUMBIA U 919 966-2461

MAYNOR, CAROLYN CHANG S
BEECHWOOD APTS. 24-A 89 00 85
4800 UNIVERSITY DR. EX.
DURHAM 27707
DUKE 919 286-1409

MAYNOR, JAYNE PATRICE AN S
P. O. BOX 606 87 00 84
PEMBROKE 28372
U OF NC 919 521-4208

MCADAMS, HOLMAN PAGE R
10321 CRESTMOOR DR. 86 00 84
SILVER SPRING, MD 20901
DUKE 301 681-8511

MCALLISTER, JAMES GRAY, III P AC
157 1/2 E. FRANKLIN ST. 60 60 68
PO BOX 431
CHAPEL HILL 27514
U OF NC 919 968-4651

MCALLISTER, RUSSELL G.,JR. CD /IM AC
3712 DOVER RD. 67 68 86
DURHAM 27707
MED COLL OF VA 919 248-2598

MCBRIDE, ALLEN JOSEPH FP /GER AC
BLUE CROSS/BLUE SHIELD OF NC 78 79 83
PO BOX 2291
DURHAM 27702
MED COLL OF VA 919 489-7431

MCCANN, RICHARD LUCAS GS /CDS AC
BOX 2990, DUMC 74 83 84
DURHAM 27710
CORNELL U 919 684-2620

MCCARTNEY, CHERYL FAINTUCH P AC
UNC, WING D, 208-H 71 72 80
CHAPEL HILL 27514
NORTHWESTERN U 919 966-4551

MCCARTNEY, WILLIAM HUGH DR /NM AC
NCMH, DEPT. OF RADIOLOGY 69 70 81
CHAPEL HILL 27514
NORTHWESTERN U 919 966-4384

MCCOLLUM, DONALD EUGENE ORS AC
BOX 2919, DUMC 53 53 62
DURHAM 27710
BOWMAN GRAY 919 684-4055

MCCRACKEN, JOSEPH STUART OPH AC
2609 N. DUKE ST. #203 75 77 82
DURHAM 27704
DUKE 919 471-8495

MCCRORY, MICHAEL ELLIOTT DR AC
2609 N. DUKE ST. STE. 303 73 74 79
DURHAM 27704
TUFTS U 919 471-8411

MCCUEN, BROOKS WALTON, II OPH AC
BOX 3802, DUMC 74 75 80
DURHAM 27710
COLUMBIA U 919 684-6749

MCCUTCHAN, JAMES HUTTON IM /ID AC
UNC STUDENT HEALTH 61 61 69
CHAPEL HILL 27514
JOHNS HOPKINS 919 966-2281

MCCUTCHEON, WILLIAM B.,JR. TS /CDS AC
1830 HILLANDALE ROAD 52 55 58
DURHAM 27705
MED COLL OF VA 919 383-5531

32. DURHAM-ORANGE COMPONENT SOCIETY (Continued)

MCDAVID, JOSHUA DENT S
711-C HIBBARD DR. 88 00 85
CHAPEL HILL 27514
U OF NC 919 933-6482

MCDONALD, CARY CRANE S
2914 N. BROADWAY #1 87 00 85
CHICAGO, IL 60657
U OF NC

MCDONNELL, KENNETH PAUL S
1911 ERWIN RD., APT. B 89 00 85
DURHAM 27705
DUKE

MCGUIRT, WILLIAM FREDERICK,JR. S
PO BOX 713 89 00 85
CARRBORO 27510
U OF NC 919 929-5170

MCINTYRE, ROSS WILLIAM AN AC
BOX 3071, DUMC 70 73 80
DURHAM 27710
BRITISH COLUMBIA 919 681-4774

MCKEE, LEWIS MIDDLETON IM L/RT
17 SURREY LN., HOPE VALLEY 33 34 34
DURHAM 27707
TEMPLE U 919 489-3262

MCKEE, SCOTT S
BOX 2847, DUMC 90 00 87
DURHAM 27710
DUKE 919 383-5828

MCLEAR, RONALD KENT EM AC
3200 CROASDAILE DR. STE. 201 75 77 82
DURHAM 27705
OHIO STATE U 919 383-0709

MCLELLAND, ROBERT DR AC
3716 ST. MARKS ROAD 48 48 74
DURHAM 27707
U OF CINCINNATI 919 489-0407

MCLENDON, WILLIAM W. CLP /PTH AC
NCMH, DEPT. OF LABORATORIES 56 56 63
CHAPEL HILL 27514
U OF NC 919 966-2317

MCLEOD, MELISSA MYTYLE S
27 SPRING GARDEN APTS. 89 00 86
HOLLAND DR.
CHAPEL HILL 27514
U OF NC 919 489-2989

MCLEOD, MICHAEL EUGENE GE /IM AC
BOX 3073, DUMC 60 60 69
DURHAM 27710
DUKE 919 684-4046

MCLOUGHLIN, THOMAS M. S
3924 LINDEN TERRACE 88 00 84
DURHAM 27705
DUKE 919 383-7190

MCMILLAN, CAMPBELL WHITE PHO /PD AC
UNC, DEPT. OF PED. 229-H 52 52 61
CHAPEL HILL 27514
BOWMAN GRAY 919 966-3133

MCNAMARA, JAMES O'CONNELL N AC
400 LAKE SHORE LANE 68 69 85
CHAPEL HILL 27514
U OF MICHIGAN 919 286-0411

MCPHERSON, HARRY THURMAN END /IM AC
DUKE UNIV. MED. CTR. 48 53 55
DURHAM 27710
DUKE 919 684-2186

MCPHERSON, SAMUEL DACE, JR. OPH AC
1110 W. MAIN STREET 43 48 48
DURHAM 27701
JOHNS HOPKINS 919 682-9341

MEDDERS, RUSSELL GLEN R
221 BRANDON ROAD 84 00 82
BALTIMORE, MD 21212
U OF NC 919 967-8927

MELGES, FREDERICK T. P AC
BOX 2995, DUMC 61 62 87
DURHAM 27710
COLUMBIA U 919 684-3655

MELTON, JAMES WILLARD, JR. S
302-F BOLINWOOD APTS. 87 00 86
CHAPEL HILL 27514
U OF NC 919 942-1729

MELVIN, TERESA BOWEN S
RT. #1, BOX 9F 87 00 85
LONG ISLAND 28648
U OF NC 704 478-3436

MENNILLO, ROGER NILES S
811 VICKERS AVE. 87 00 85
DURHAM 27701
DUKE 919 688-0527

MESROBIAN, HRAIR-GEORGE U AC
428 BURNETT-WOMACK 229-H 78 80 86
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514
AMER.U OF BEIRUT 919 966-2572

MESSENHEIMER, JOHN ANDREW N /IM AC
UNC, DEPT. OF NEUROLOGY 70 77 79
CHAPEL HILL 27514
JOHNS HOPKINS 919 966-3707

MEYER, ANDREW FREDERIC AN AC
BOX 3083, DUKE MED. CENTER 69 70 83
DURHAM 27710
DOWNSTATE ME CTR 919 681-6526

MEYER, ANTHONY ANDREW GS AC
UNC, BURNETT-WOMACK 77 78 86
229-H, ROOM 164
CHAPEL HILL 27514
U OF CHICAGO 919 966-4321

MEYER, GEORGE WRIGHT OPH AC
1106 HILLANDALE ROAD 52 57 59
DURHAM 27705
DUKE 919 286-9663

MEYERS, WILLIAM CLARK GS /CRS AC
BOX 3041, DUMC 75 83 84
DURHAM 27710
COLUMBIA U 919 684-6437

MILLER, DAVID EDMOND CD /IM AC
CENTRAL MEDICAL PARK 56 56 64
2609 N. DUKE ST., STE. 403
DURHAM 27704
DUKE 919 471-8441

MILLER, MARK F. S
2752 MIDDLETON #31-J 90 00 86
DURHAM 27705
DUKE 919 383-0025

MILLER, MILTON LEONARD PYA /P L
17 LOGGIN TRAIL 29 36 60
DURHAM 27707
HARVARD 919 493-6059

MINTZER, MELANIE FP AC
210 S. CAMERON ST. 80 81 85
HILLSBOROUGH 27278
MCGILL U 919 732-9311

MITCHELL, CALVIN HARRISON OPH AC
BOX 3802, DUKE UNIV. EYE CTR. 58 58 86
DURHAM 27710
DUKE 919 684-2841

MOHR, JACK ELMER OBG AC
706 WELLINGTON DRIVE 53 57 57
CHAPEL HILL 27514
TUFTS U 919 967-1441

MOLTER, DAVID W. S
2974 CAROLYN DRIVE 88 00 83
DURHAM 27703
DUKE 919 596-4936

MONROE, JOHN THADDEUS, JR. PYA /P AC
1100-A FRANKLIN SQUARE 55 55 62
CHAPEL HILL 27514
U OF NC 919 967-5289

MONSON, DONALD MALVIN R AC
3751 BENTLEY DRIVE 55 62 62
DURHAM 27707
U OF WISCONSIN 919 471-8411

MONTANA, GUSTAVO SANTOS TR AC
DUMC-RADIATION ONC. 60 60 71
DURHAM 27710
NATL U COLOMBIA 919 684-6183

MONTY, LOUIS HAROLD P R
610 DOUGLAS ST., #A-104 85 00 85
DURHAM 27705
U OF TEL AVIV 919 286-2188

MOORE, DAVID HARRY GYN /ON R
UNC, DIV. OF GYN-ONC 82 82 86
N.C. MEMORIAL HOSP.
CHAPEL HILL 27514
INDIANA U 919 966-1196

MOORE, DONALD TORIAN OBG AC
601 FAYETTEVILLE STREET 58 58 69
DURHAM 27701
MEHARRY MED COLL 919 682-9241

MOORE, LAWRENCE WHITE, JR. OPH
1110 W. MAIN STREET 63 63
DURHAM 27701
DUKE 919 682-9

MOORE, MELISA DARA
102-B ISLEY STREET 87 00
CHAPEL HILL 27514
U OF NC 919 929-7

MORIN, JUDITH K.
5002 MCCORMICK RD. 90 00
DURHAM 27713
U OF NC 919 967-0

MORRIS, JAMES JOSEPH, JR. CD /IM
BOX 2993, DUMC 59 66
DURHAM 27710
DOWNSTATE ME CTR 919 684-4

MORRIS, JONATHAN EDWARD P
103 ROCK SPRING COURT 82 82
CARRBORO 27510
U OF NC 919 967-6

MOSELEY, WALTON STROZIER
311 S. LASALLE ST. APT. 37-B 90 00
DURHAM 27705
DUKE 919 286-3

MOYLAN, JOSEPH ANTHONY GS /TRS
BOX 3947, DUMC 64 65
DURHAM 27710
BOSTON U 919 684-2

MULY, EMIL C., III
886 LOUISE CIRCLE, APT. 26-B 88 00
DURHAM 27705
DUKE 919 383-0

MUMFORD, LARRY NPM /PD
3115 ACADEMY ROAD 67 68
DURHAM 27707
U OF NC 919 489-1

MUNDAY, TONA LEIGH
D-6 GRAHAM CONDOS. 89 00
MC CAULEY ST.
CHAPEL HILL 27514
U OF NC 919 929-0

MURPHY, ROBERT JENNINGS, JR. FP /PD
RT. 4 BOX 197 40 40
ORANGE HIGH RD.
HILLSBOROUGH 27278
VANDERBILT U 919 732-9

MURRAY, JANE H. FP
907 DEMERIUS ST. 84 85
DURHAM 27701
U OF NC 919 471-2

MURRAY, JOHN CARROLL DMP
BOX 2907, DUMC 77 82
DURHAM 27710
DUKE 919 684-3

MURRAY, MICHAEL J. TR
910 CONSTITUTION DR. APT. 720 85 86
DURHAM 27705
DUKE 919 684-3

MURRAY, WILLIAM JAMES AN
BOX 3094, DUMC 62 62
DURHAM 27710
U OF NC 919 684-2

NAHSER, PHILIP JOSEPH, JR.
214-C BRANSON ST. 88 00
CHAPEL HILL 27514
U OF NC

NANDA, SUMIT OPH
BOX 2872, DUMC 87 00
DURHAM 27710
DUKE 919 684-5

NASTALA, CHET LAWRENCE
BOX 2779, DUMC 89 00
DURHAM 27710
DUKE

NATHAN, LAUREN
548 FINLEY ST. 89 00
DURHAM 27705
DUKE 919 383-4

NEAL, CHARLES BODINE, III PD
2919 COLONY ROAD 55 55
DURHAM 27705
DUKE 919 489-9

32. DURHAM-ORANGE COMPONENT SOCIETY (Continued)

.BEL, WILLIAM ARTHUR OBG AC
:ONNER DR. PROF. BLDG. 62 62 69
:HAPEL HILL 27514
J OF NC 919 942-8571

ELEY, BRUCE CARLTON P /PYM AC
1911 HILLANDALE RD. STE. 1040 75 77 85
)URHAM 27705
MED U OF SC 919 383-1516

ELON, FRANCIS ALBERT IM /END AC
BOX 3021, DUMC 62 62 83
)URHAM 27710
HARVARD 919 684-4307

ISH, DONALD DEWITT IM /GER AC
2609 N. DUKE STREET 58 59 77
)URHAM 27704
TEMPLE U 919 471-8446

LIUS, SIGRID J. VONRENNER IM /GPM AC
WEST DURHAM STATION 49 61 64
BOX 2899
)URHAM 27705
LUDWIG MAXIMILLI 919 383-6289

MEROFF, CHARLES BARNET P AC
BOX 3859, DUMC 81 81 78
)URHAM 27710
U OF NC 919 684-6562

WBORG, BARBARA IM AC
BOX 3385, DUMC 49 49 64
)URHAM 27710
JOHNS HOPKINS 919 684-3418

WSOME, JAMES FREDERICK GS /ON AC
UNC, BURNETT-WOMACK, 229-H 49 50 56
CHAPEL HILL 27514
VANDERBILT U 919 966-5221

, KHYE WENG N /IM AC
1830 HILLANDALE ROAD 56 68 72
DURHAM 27705
U OF SINGAPORE 919 383-5531

)ECKER, ROBERT J. S
PO BOX 884 90 00 87
CHAPEL HILL 27514
U OF NC 919 781-0707

)EL, ROBERT F., JR. S
RT. #11, BOX 94 89 00 87
CHAPEL HILL 27514
U OF NC 919 968-6454

)RINS, MICHAEL ELLIOTT R
122 WINDSOR PLACE 86 00 83
CHAPEL HILL 27514
U OF NC 919 933-0367

)VEK, STEVEN JAI S
A-11 UNIVERSITY GARDENS APTS. 89 00 85
CHAPEL HILL 27514
U OF NC 919 929-8823

UGENT, RICHARD RECHER GPM /OBG AC
DIV. OF HEALTH SERVICES 66 67 80
P. O. BOX 2091
RALEIGH 27602
U OF PENN 919 733-3816

UNLEY, JAMES ALBERT, II ORS /HS AC
BOX 2919, DUMC 73 73 82
DURHAM 27710
TULANE U 919 684-4033

YE, MARY JANE LOVE PD /ADL AC
1919 WILSHIRE DRIVE 61 61 64
DURHAM 27707
DUKE 919 489-9534

AKES, WALTER JERRY NS AC
BOX 3272, DUMC 72 72 78
DURHAM 27710
DUKE 919 684-5013

DERE, FRED GORDON PTH AC
DURHAM CO. HOSP-PTH 70 74 79
DURHAM 27704
GEO WASHINGTON U 919 470-5243

DOM, GUY LEARY NS L/RT
2812 CHELSEA CIRCLE 33 33 44
DURHAM 27707
TULANE U 919 489-2206

LDER, ROBERT ALAN DR AC
3104 DEVON RD. 68 68 77
DURHAM 27707
DUKE 919 383-6984

OLDHAM, H. NEWLAND, JR. CDS /GS AC
DUKE UNIV. MED. CTR. 61 61 72
DURHAM 27710
BAYLOR 919 684-3243

OLESON, JAMES ROBERT TR /ON AC
BOX 3085, DUMC 76 76 85
DURHAM 27710
U. OF ARIZONA 919 684-3742

OLIVER, WILLIAM RUSSELL PTH R
114-B FIDELITY STREET 82 82 84
CARRBORO 27510
VANDERBILT U 919 929-7120

OLSEN, ELISE ARLINE D /IM AC
BOX 3294, DUMC 78 78 79
DURHAM 27710
BAYLOR 919 684-6844

ONTJES, DAVID AINSWORTH END /IM AC
UNC SCHOOL OF MEDICINE 64 64 70
CHAPEL HILL 27514
HARVARD 919 966-4468

ORGAIN, EDWARD STEWART CD /IM L/RT
3321 DEVON ROAD 30 30 36
DURHAM 27707
U OF VIRGINIA 919 489-2111

ORLANDO, ROY CHARLES GE /IM AC
324 CLINICAL SCIENCES BLDG. 68 68 77
UNC DEPT. OF MEDICINE 229-H
CHAPEL HILL 27514
GEORGETOWN U 919 966-2511

ORRINGER, EUGENE PAUL HEM /IM AC
UNC,DIV.OF HEM,DEPT. OF MED. 69 71 81
340 MACNIDER BLDG. 202-H
CHAPEL HILL 27514
U OF PITTSBURGH 919 966-2467

OSTERHOUT, SHIRLEY K. PD AC
BOX 3007, DUMC 57 57 84
DURHAM 27710
DUKE 919 684-2498

OVERCASH, WILLIAM TODD S
P.O. BOX 1694 88 00 84
ALBEMARLE 28002
U OF NC

OWL-SMITH, FRANCES S
301 ROLLINGWOOD ROAD 87 00 84
CHAPEL HILL 27514
U OF NC 919 933-5102

OZER, HOWARD ON AC
UNC 3019 OLD CLINIC BLDG. 226H 75 77 86
CHAPEL HILL 27514
YALE 919 966-4431

PADDISON, GEORGE MARION R AC
3920 REGENT ROAD 66 66 73
DURHAM 27707
U OF NC 919 489-0272

PADGETT, RICHARD CAMERON S
411 MCCAULEY ST. 88 00 84
CHAPEL HILL 27514
U OF NC 919 942-5518

PAGANO, JOSEPH STEPHEN IM /ID AC
UNC,LINEBERGER CANCER RES. 57 65 65
CHAPEL HILL 27514
YALE 919 966-3036

PALMER, JEFFRESS GARY IM /HEM AC
N. C. MEMORIAL HOSPITAL 44 52 52
CHAPEL HILL 27514
EMORY U 919 966-3311

PANZA, WILLIAM SEBASTIAN S
1800 WILLIAMSBURG RD. APT. 8-E 88 00 84
D'URHAM 27707
DUKE 919 489-4104

PAOLINI, JOHN FRANK S
BOX 2832, DUMC 90 00 86
DURHAM 27710
DUKE

PAPADOPOULOS, SPYRIDON G. S
3700-205 CHIMNEY RIDGE PL. 90 00 86
DURHAM 27713
DUKE 919 493-0718

PARANKA, JULIA ANNE S
3536 MAYFAIR ST. #102 90 00 86
DURHAM 27707
DUKE 919 493-7736

PARKE, CHARLES EDWARD S
614 CASWELL RD. 88 00 85
CHAPEL HILL 27514
U OF NC 919 942-6631

PARKER, JOHN CURTIS HEM /IM AC
N. C. MEMORIAL HOSPITAL 61 67 68
CHAPEL HILL 27514
YALE 919 966-2468

PARKER, JOSEPH B., JR. P /PYM AC
BOX 3838, DUMC 41 41 71
DURHAM 27710
U OF TENNESSEE 919 684-2415

PARKER, PAUL EDWIN AN R
N. C. MEMORIAL HOSPITAL 86 86 86
CHAPEL HILL 27514
EASTERN VA 919 477-2475

PARKER, ROY TURNAGE OBG AC
BOX 3097, DUMC 44 47 50
DURHAM 27710
MED COLL OF VA 919 684-2626

PARKERSON, GEORGE ROBERT, JR. FP AC
BOX 2914, DUMC 53 55 75
DURHAM 27710
DUKE 919 286-9896

PARLIER, REGGIE DAVID S
828 HOLLY HEDGE DR. 87 00 84
LEWISVILLE 27023
DUKE 919 479-5559

PATTERSON, CARL NORRIS HNS /MFS AC
1110 W. MAIN STREET 44 48 48
DURHAM 27701
U OF MARYLAND 919 682-9341

PATTERSON, HUBERT CLIFTON GS L/RT
602 S. COLUMBIA STREET 37 47 47
CHAPEL HILL 27514
HARVARD 919 968-3051

PATTON, SUZANNE ELIZABETH S
2808 ERWIN RD., APT. 6A 89 00 85
DURHAM 27705
DUKE 919 383-0446

PAULSON, DAVID FREEMAN U AC
BOX 2977, DUMC 64 64 72
DURHAM 27710
DUKE 919 684-5057

PAYNE, LOEL ZACHARY S
RT. #11, BOX 94 89 00 85
CHAPEL HILL 27514
U OF NC 919 968-6454

PAYNE, THOMAS ARTHUR S
405-A COOLRIDGE ST. 89 00 85
CHAPEL HILL 27514
U OF NC 919 929-4291

PEACOCK, ERLE EWART, JR. PS /GS AC
109 CONNER DR., STE. 2204 49 53 56
CHAPEL HILL 27514
HARVARD 919 933-0005

PEARCE, PHILIP HENDERSON OBG AC
1821 GREEN STREET 60 60 67
DURHAM 27705
DUKE 919 286-1258

PEARSE, RICHARD LEHMER OBG /HYP L/RT
154 MONTROSE DR. 31 38 38
DURHAM 27707
HARVARD 919 493-3995

PEDERSON, WM. CHRISTOPHER PS AC
BOX 3974, DUMC 78 78 87
DURHAM 27710
U OF TEXAS-SW 919 684-4114

PEETE, CHARLES HENRY, JR. OBG AC
BOX 3192, DUMC 47 47 58
DURHAM 27710
HARVARD 919 684-2346

PEETE, WILLIAM P.J. GS AC
BOX 3506, DUMC 47 49 56
DURHAM 27710
HARVARD 919 684-3727

PEREZ-REYES, MARIO P AC
107 HUNTER HILL PLACE 52 67 67
CHAPEL HILL 27514
NAT U OF MEXICO 919 933-9829

PERONA, BARBARA PIEZ S
1022 GREEN ST. 90 00 86
DURHAM 27701
DUKE 919 682-3942

32. DURHAM-ORANGE COMPONENT SOCIETY (Continued)

PERRY, DWIGHT DEAN OPH AC
512 SIMMONS ST. 80 81 85
DURHAM 27707
U OF NC 919 682-7175

PETERSON, HUGH DUANE PS AC
UNC, BURNETT-WOMACK BLDG. 62 65 83
CHAPEL HILL 27514
NORTHWESTERN U 919 966-3693

PETERSON, JEFFREY MCBRAYER S
2 SPRING GARDEN, HOLLAND DR. 89 00 85
CHAPEL HILL 27514
U OF NC 919 933-0153

PFAFF, HERBERT CHARLES S
1204 N. GREGSON ST. 87 00 85
DURHAM 27701
U OF NC 919 682-8336

PHILLIPS, HARRY RISSLER, III CD /IM AC
BOX 3126, DUMC 75 78 72
DURHAM 27710
DUKE 919 681-5816

PHILLIPS, KATHRYN ELIZABETH S
200 BLUERIDGE RD. 88 00 86
CARRBORO 27510
U OF NC 919 967-1058

PICKARD, CARL GLENN, JR. IM AC
N. C. MEMORIAL HOSPITAL 62 62 69
CHAPEL HILL 27514
U OF NC 919 966-4205

PILLSBURY, HAROLD C.,III OTO /HNS AC
UNC,610 BURNETT-WOMACK 229-H 72 72 75
CHAPEL HILL 27514
GEO WASHINGTON U 919 966-3341

PLESCIA, MARCUS S
101-A STEPHENS ST. 89 00 85
CHAPEL HILL 27514
U OF NC 919 929-9858

PODGER, KENNETH ARTHER GYN L/RT
7701 BEACH DRIVE 40 48 49
MYRTLE BEACH, SC 29577
DUKE 803 449-3459

PONDER, PHILIP WADE S
405-A COOLIDGE ST. 90 00 86
CHAPEL HILL 27514
U OF NC 919 782-1769

PORTER, DEAN PRIEST S
250 S. ESTES DR. #34 89 00 85
CHAPEL HILL 27514
U OF NC 919 933-7840

PORTER, LISA ELLEN S
2681 HITCHCOCK DR. 89 00 87
DURHAM 27705
DUKE 919 471-9289

POSTLETHWAIT, RAYMOND W. GS L/RT
143 PINECREST RD. 37 47 56
DURHAM 27705
DUKE 919 489-8865

POTTER, JOAN GARSKA FP AC
109 CONNER DR., STE. 2203 80 82 84
CHAPEL HILL 27514
WEST VA U 919 929-5700

POWELL, ALLEN ORLO S
RT. #1, BOX 172 88 00 86
DURHAM 27705
DUKE 919 493-8238

POWELL, DON WATSON GE /IM AC
UNC,326 BURNETT-WOMACK BLDG. 63 63 71
CHAPEL HILL 27514
U OF ALABAMA 919 966-2511

POWERS, STEPHEN KENT NS AC
UNC, 148 CLINICAL SCI. BLDG. 77 78 84
CHAPEL HILL 27514
OHIO STATE U 919 966-1374

PRACYK, JOHN BRADFORD S
610 DOUGLAS ST., APT. 312-B 89 00 85
DURHAM 27705
DUKE 919 286-7365

PRANGE, ARTHUR JERGEN, JR. P AC
NCMH, DEPT. OF PSYCHIATRY 50 58 58
CHAPEL HILL 27514
U OF MICHIGAN 919 966-1480

PRATHER, DONNA LYNN P AC
311 BLUERIDGE RD. 78 79 78
CARRBORO 27510
U OF NC 919 929-6519

PRATT, REBECCA ANN S
209 ALEXANDER ST. APT. D 90 00 87
DURHAM 27705
DUKE 919 684-7590

PRENTICE, ROBERT DEREK FP AC
3500 WESTGATE DR., STE. 705 70 70 85
DURHAM 27707
U OF EDINBURGH 919 493-8600

PRESTON, EDWIN THORNTON ORS AC
110 S. ESTES DRIVE 60 60 70
CHAPEL HILL 27514
DUKE 919 942-3171

PRICE, ROBERT EDWIN, JR. NS AC
1830 HILLANDALE ROAD 64 64 72
DURHAM 27705
U OF NC 919 383-5531

PRIVETTE, MELINDA HILL S
29 MAXWELL RD. 87 00 84
CHAPEL HILL 27514
U OF NC 919 967-7156

PROIA, ALAN DAVID PTH AC
4118 DEEPWOOD CIRCLE 80 80 81
DURHAM 27707
CORNELL U 919 489-3161

PROSNITZ, LEONARD R. TR AC
BOX 3085, DUMC 61 65 84
DURHAM 27710
DOWNSTATE ME CTR 919 684-3805

PRUTHI, ASIT SOM S
311 S. LASALLE ST., APT. 38N 90 00 87
DURHAM 27705
DUKE 919 286-2615

PURUT, CEMIL M. S
BOX 2765, DUMC 87 00 86
DURHAM 27710
DUKE 919 684-5939

PUTMAN, CHARLES EDGAR R /IM AC
BOX 3808, DUMC 67 67 78
DURHAM 27710
U OF TEXAS 919 684-3403

RAFT, ELIZABETH VANCE CHP /P AC
33 KIMBERLY DRIVE 60 60 71
DURHAM 27707
U OF NC 919 489-7011

RANEY, RICHARD BEVERLY, SR. ORS L/RT
N. C. MEMORIAL HOSPITAL 30 34 35
CHAPEL HILL 27514
HARVARD 919 966-2030

RANKIN, JAMES SCOTT TS AC
BOX 3851, DUMC 69 81 85
DURHAM 27710
U OF TENNESSEE 919 684-2718

RAVIN, CARL ERIC R AC
BOX 3808, DUMC 68 71 79
DURHAM 27710
CORNELL U 919 681-5268

RAY, VERONICA JOSEPHINE FORBES IM AC
1301 FAYETTEVILLE ST. 79 79 86
DURHAM 27707
U OF NC 919 683-1316

RECKLESS, JOHN BRIAN P /PYM AC
1816 FRONT ST., STE. 310 54 60 62
DURHAM 27705
U BIRMINGHAM ENG 919 383-1502

REDDY, PARVATA CHINNA P. AN AC
DURHAM CO. GENERAL HOSP. 61 63 85
DURHAM 27704
KURNOOL MED COLL 919 471-3411

REDICK, LLOYD FRANKLIN AN AC
BOX 3094, DUMC 58 58 74
DURHAM 27710
OHIO STATE U 919 684-6736

REISER, HARVEY J. OPH R
9TH AND WALNUT STREETS 85 00 84
PHILADELPHIA, PA 19107
DUKE

RENUART, ADHEMAR WILLIAM, III N /PD AC
1830 HILLANDALE ROAD 56 58 78
DURHAM 27705
DUKE 919 383-5531

REVES, JOS. GERALD AN AC
BOX 3094, DUMC 69 69 87
DURHAM 27710
MED U OF SC 919 681-6646

RHOADS, JOHN MCFARLANE P /PYA A
BOX 3903, DUMC 43 56
DURHAM 27710
TEMPLE U 919 684-62

RICE, A. DOUGLAS PD A
2919 COLONY ROAD 51 54
DURHAM 27705
DUKE 919 489-91

RICE, JOHN RUSSELL RHU A
BOX 3383, DUMC 68 69
DURHAM 27710
U OF MIAMI 919 684-33

RICE, REED PORTER DR A
DUKE HOSPITAL 55 61
DURHAM 27710
INDIANA U 919 684-27

†RICHARDSON, WILLIAM PERRY GPM
300 GLANDON DRIVE 28 28
DECEASED -- 4-14-87
CHAPEL HILL 27514
MED COLL OF VA 919 942-356

RICHMOND, GLENN HICKAM, JR.
CAMELOT VILLAGE, J-4 88 00 8
CHAPEL HILL 27514
U OF NC 919 929-44

RIEFKOHL, RONALD PS /GS A
DUMC, DIV. OF PLASTIC SURGERY 72 72
DURHAM 27710
TULANE U 919 684-285

RIRIE, DOUGLAS G.
130 #M E. LONGVIEW 90 00 8
CHAPEL HILL 27514
U OF NC 919 967-074

RISKA, PAUL FRANK
BOX 2733, DUMC 89 00 8
DURHAM 27710
DUKE 919 383-562

ROBBINS, JACK GUYES D A
823 BROAD STREET 48 49 5
DURHAM 27705
DUKE 919 286-419

ROBERTS, BENNIE DWAYNE
RT. #2, BOX 117-S 87 00 8
WARSAW 28398
U OF NC 919 929-309

ROBERTS, HAROLD ROSS HEM AC
UNC,CLINICAL SCI BLDG. 229-H 55 55 6
CHAPEL HILL 27514
U OF NC 919 966-430

ROBERTS, LOUIS CARROLL U L/R
3950 PLYMOUTH ROAD 33 35 4
DURHAM 27707
DUKE 919 489-421

ROBERTS, MARIE PH L/R
BOX #7 49 51 5
BAHAMA 27503
MED U OF SC 919 477-237

ROCKWELL, WILLIAM J. K. P AC
DUKE, DEPT. OF PSYCHIATRY 61 61 6
DURHAM 27710
DUKE 919 684-307

RODABAUGH, KERRY J.
1315 MORREENE RD. APT. 23L 90 00 87
DURHAM 27705
DUKE 919 847-961

RODWELL, ELEANOR GP L/R
1118 HILLANDALE ROAD 42 42 4
DURHAM 27705
TEMPLE U 919 286-111

ROLLER, JEFFERY EARL
405-C MASON FARM RD. 88 00 85
CHAPEL HILL 27514
U OF NC 919 933-678

ROSENBERG, MARK ROBERT
BOX 2841, DUMC 88 00 83
DURHAM 27710
DUKE 919 493-284

ROSENSTEIN, BYRON DAVID ORS R
205 NORTHWOOD DR. 82 82 8
CHAPEL HILL 27514
NORTHWESTERN U 919 942-420

ROUSE, JAMES BRISTOL PD /N AC
306 S. GREGSON STREET 65 65 71
DURHAM 27701
DUKE 919 688-634

32. DURHAM-ORANGE COMPONENT SOCIETY (Continued)

OYAL, BILLY WILLIAMSON P AC
P. O. BOX 2387 58 58 62
CHAPEL HILL 27514
BOWMAN GRAY 919 733-5540

OZAKIS, GEORGE WILLIAM R
2 ABINGDON WAY 82 83 84
DURHAM 27707
CORNELL U 919 544-7906

OZEAR, MARVIN PRICE N AC
BOX 3849, DUKE UNIV. MED. CTR. 66 66 76
DURHAM 27710
DUKE 919 684-8111

USSELL, SHAWN ELAINE P AC
IBM, BOX 12195 77 77 86
RESEARCH TRIANGLE PK 27709
NEW YORK MED COL 919 543-5511

USTAD, TODD J. S
1315 MORREENE RD. APT. 27I 90 00 86
DURHAM 27705
DUKE 919 383-5828

ABISTON, DAVID COSTON, JR. GS /TS AC
DUKE UNIV. MED. CTR. 47 64 65
DURHAM 27710
JOHNS HOPKINS 919 684-2831

AFRAN, MARC RAYMOND S
BOX 2769, DUMC 87 00 84
DURHAM 27710
DUKE 919 383-4055

AHBA, MEHRDAD MAJDZADEH GE /IM AC
306 S. GREGSON STREET 57 57 72
DURHAM 27701
U OF ISFAHAN 919 682-5561

ALLEE, D. SKIP R
BOX 3808, DUMC 85 86 87
DURHAM 27710
MISSOURI U-KC 919 383-6548

ALTZMAN, HERBERT AARON PUD /A AC
BOX 3823, DUMC 52 53 83
DURHAM 27710
JEFFERSON 919 684-4149

ANDERS, GEO. HERBERT SUMNER S
119 F-4 FIDELITY ST. 88 00 86
CARRBORO 27510
U OF NC 919 942-0546

ANDLER, ROBERT SAMUEL GE AC
UNC, 423 CLINICAL SCI. 229-H 75 76 83
CHAPEL HILL 27514
YALE 919 966-2511

ANFILIPPO, ALFRED PAUL PTH /IG AC
3315 STONEYBROOK DRIVE 76 76 74
DURHAM 27705
DUKE 919 684-2482

ATHER, RANDALL KENNETH R AC
1901 HILLANDALE ROAD 69 69 83
DURHAM 27705
MED COLL OF GA 919 383-9407

AUTER, SUZANNE VAN HOUTEN RHU /IM AC
UNC, TRAILER 33, 307-H 74 74 80
CHAPEL HILL 27514
U OF NC 919 966-5164

AVITT, MICHAEL ANDREW S
3702 CHIMNEY RIDGE PL. 89 00 85
DURHAM 27713
DUKE 919 286-1989

AWHNEY, DEEPAK S
4 GOOSENECK CIRCLE 88 00 86
CHAPEL HILL 27514
U OF NC 919 968-1747

CATLIFF, JAMES HOWARD R AC
N. C. MEMORIAL HOSPITAL 52 66 67
CHAPEL HILL 27514
NORTHWESTERN U 919 966-4238

CHEIL, CHARLES DAVID S
24-F STRATFORD HILLS 88 00 85
CHAPEL HILL 27514
U OF NC 919 967-4308

CHIEBEL, HERMAN MAX GS /TS L
1020 ANDERSON ST. 33 38 40
DURHAM 27705
JOHNS HOPKINS 919 489-5109

CHLASEMAN, GUY W. R AC
3643 N. ROXBORO ST. 46 54 54
DURHAM 27704
DUKE 919 471-3411

SCHLOSSMAN, DAVID MICHAEL IM /ON AC
BOX 3843, DUMC 79 81 85
DURHAM 27710
DUKE 919 684-4385

SCHMALTZ, ROBERT ANDREW S
604 W. KNOX ST. 89 00 85
DURHAM 27701
DUKE 919 383-5972

SCHMIDT, EVELYN PD /PH AC
1301 FAYETTEVILLE STREET 51 51 71
DURHAM 27707
DUKE 919 683-1316

SCHMITT, RAYMOND FRANCIS, JR. CHP /P AC
215-A RIVER TRAIL 59 59 70
RIVERVIEW APTS.
MORGANTON 28655
LA STATE U

SCHWARTZBERG, MARC SCOTT S
6-A ESTES PARK APTS. 87 00 85
CARRBORO 27510
U OF NC 919 967-8034

SCHWINN, DEBRA ANNE AN R
BOX 3094, DUMC 83 86 86
DURHAM 27710
STANFORD U 919 493-3168

SCOTT, DIANNE LYNNETTE AN AC
BOX 3094, DUMC 78 80 83
DURHAM 27710
U OF NC 919 684-3239

SCOTT, EDWIN HUGHES S
99 MAXWELL ROAD 90 00 86
CHAPEL HILL 27514
U OF NC 919 942-3115

SCOTT, LINCOLN BAIN ADL AC
UNC STUDENT HEALTH SERVICE 58 61 72
CHAPEL HILL 27514
U OF PENN

SCOTT, STEVEN MARTIN OBG /EM AC
3711 STONEYBROOK DR. 74 74 79
DURHAM 27705
INDIANA U 919 383-0355

SEALY, WILL CAMP TS /CDS L
777 HEMLOCK ST., BOX 6000 36 36 48
MACON, GA 31208
EMORY U 912 744-1000

SEATON, KAREN GIPSON IM /END S
59 POLKS LANDING 88 00 85
CHAPEL HILL 27514
U OF NC 919 933-9515

SEGRETI, EILEEN MARIE S
538 FINLEY ST. 88 00
DURHAM 27705
DUKE 919 383-7558

SEIGLER, HILLIARD FOSTER GS AC
BOX 3966, DUMC 60 60 71
DURHAM 27710
U OF NC 919 684-3942

SEMANS, JAMES HUSTEAD U L
DUKE UNIV. MED. CTR. 36 53 54
DURHAM 27710
JOHNS HOPKINS 919 684-2744

SENIOR, ROBERT JOSEPH ADL AC
500 EASTOWNE DR., SUITE 201 55 56 81
CHAPEL HILL 27514
JEFFERSON 919 929-3471

SERAFIN, DONALD PS /GS AC
DUMC-PLASTIC SURGERY 64 64 74
DURHAM 27710
DUKE 919 684-3347

SESSIONS, JOHN TURNER, JR. GE /IM AC
UNC,324 CLINICAL SCI. 229-H 45 52 52
CHAPEL HILL 27514
EMORY U 919 966-2511

SESSIONS, RICK PAUL S
210 WESTBROOK DR. 89 00 85
CARRBORO 27510
U OF NC 919 933-5880

SHACKELFORD, JOSEPH ROY, III FP AC
210 S. CAMERON ST. 59 59 85
HILLSBOROUGH 27278
VANDERBILT U 919 732-9311

SHAHADY, EDWARD JOHN FP AC
UNC,TRAILER 15,269H,DPT.FAM MD 64 76 85
CHAPEL HILL 27514
WEST VA U 919 966-3714

SHAHADY, GERTRUDE KOCH S
112-A W. POPLAR AVE. 89 00 85
CARRBORO 27510
U OF NC 919 942-2077

SHALOM, ROSE IM /NEP AC
UNC, BLDG. 469-H 78 80 83
CHAPEL HILL 27514
HARVARD 919 966-2281

SHARPLESS, ELIZABETH P. S
207 CONNER DR. APT. 23 89 00 86
CHAPEL HILL 27514
U OF NC 919 967-6791

SHAVENDER, EUGENE FRANK GYN AC
1830 HILLANDALE ROAD 68 68 78
DURHAM 27705
U OF NC 919 383-5531

SHELBURNE, JOHN DANIEL PTH AC
BOX 3712, DUMC 72 72 78
DURHAM 27710
DUKE 919 286-6925

SHELDON, GEORGE FRANK GS /TRS AC
UNC,131 BURNETT-WOMACK 61 62 84
CHAPEL HILL 27514
U OF KANSAS 919 966-4052

SHEPARD, ARTHUR JAMES, III S
130-N EAST LONGVIEW 89 00 85
CHAPEL HILL 27514
U OF NC 919 942-2342

SHERMER, RICHARD WAYNE PTH AC
UNC, DEPT. OF PATHOLOGY 63 63 73
BRINKHOUS-BULLITT BLDG.228H
CHAPEL HILL 27514
U OF NC 919 966-2339

SHERRILL, GARY BRADLEY S
200 GREEN ST. 89 00 85
CHALET APTS. APT. K
CHAPEL HILL 27514
U OF NC 919 929-2435

SHIELDS, MILTON BRUCE OPH AC
DUKE UNIVERSITY EYE CENTER 66 67 76
DURHAM 27710
U OF OKLAHOMA 919 684-2841

SHIMM, CYNIA BROWN P /PYA AC
2609 N. DUKE ST. STE. 103 50 54 76
DURHAM 27704
YALE 919 471-3487

SHINGLETON, WILLIAM WARNER GS AC
BOX 3814, DUMC 43 43 51
DURHAM 27710
BOWMAN GRAY 919 684-2282

SHUGART, MARGARET ANN P R
1713 AVONDALE DR. 84 84 84
DURHAM 27701
MED COLL OF VA 919 688-9003

SIEFKER, JOSEPH DANIEL OTO R
1605 EDGEVALE RD. 83 85 83
DURHAM 27705
LA STATE U 919 688-1816

SIEKER, HERBERT OTTO IM /A AC
BOX 3822, DUMC 48 50 55
DURHAM 27710
WASHINGTON U 919 684-3907

SILBERMAN, HAROLD REITER EM /IM AC
BOX 3975-M, DUMC 56 57 64
DURHAM 27710
WASHINGTON U 919 684-5537

SIMONTON, CHARLES ALISON IM /CD AC
BOX 3310, DUMC 80 82 85
DURHAM 27710
HARVARD 919 681-6498

SINGER, JAMES DANIEL S
DD6 OLD WELL CONDOS 89 00 86
CARRBORO 27510
U OF NC 919 968-4482

SINGLETARY, WILLIAM VANCE IM L/RT
306 S. GREGSON STREET 43 44 48
DURHAM 27701
DUKE 919 682-5561

SINGLETARY, WILLIAM VANCE, JR. GE AC
306 S. GREGSON STREET 75 78 80
DURHAM 27701
DUKE 919 682-5561

32. DURHAM-ORANGE COMPONENT SOCIETY (Continued)

SISCOVICK, DAVID STUART — IM /PH AC
76 77 84
UNC, DEPT. OF MEDICINE
BOX 2,5039 OLD CLI.BLDG.226-H
CHAPEL HILL 27514
U OF MARYLAND 919 966-2276

SKRZYNSKI, MARY CLAIRE — S
88 00 85
140 RIDGE TR.
CHAPEL HILL 27514
U OF NC 919 929-4113

SLAUGHTER, THOMAS FREEMAN — S
87 00 84
3443-M N. DRUID HILLS RD.
DECATUR, GA 30033
DUKE

SLEMP, CATHERINE C. — S
89 00 86
869 LOUISE CIRCLE
DURHAM 27705
DUKE 919 383-8354

SMALL, KENT WILSON — OPH R
81 81 84
3775 GUESS ROAD #23
DURHAM 27705
TULANE U 919 684-6611

SMELZER, TIMOTHY HARVEY — IM /PUD AC
62 69 69
891 W. WILLOW DRIVE
CHAPEL HILL 27514
COLUMBIA U 919 942-5123

SMITH, ALLEN DALE — D /AM L/RT
37 37 61
182 MONTROSE
DURHAM 27707
MED COLL OF GA 919 489-2642

SMITH, BRYAN WESLEY — S
88 00 84
302 PITTSBORO ST.
CHAPEL HILL 27514
DUKE 919 929-7447

SMITH, DAVID ALDEN — FP AC
82 84 85
200 EASTOWNE DR. STE. 216
CHAPEL HILL 27514
U OF CALIFORNIA 919 967-4202

SMITH, DOUGLAS GRAHAM — S
88 00 85
207 CONNER DR. #17
CHAPEL HILL 27514
U OF NC 919 967-2035

SMITH, HELEN ELIZABETH — R
85 00 83
3312-L CIRCLE BROOK DR. SW
ROANOKE, VA 24014
U OF NC 703 772-3071

SMITH, IRA Q. — OBG AC
79 80 82
2609-B CARVER ST.
DURHAM 27705
BOWMAN GRAY 919 471-1573

SMITH, SCOTT VICTOR — S
90 00 86
3310 DEVON RD.
DURHAM 27707
U OF NC 919 493-2983

SMITH, SPENCER MARION — S
89 00 85
206 ALEXANDER ST., APT. E
DURHAM 27705
DUKE 919 684-1502

SNEDEKER, JEFFREY DAVID — PD /ID R
82 85 85
BOX 31085, DUMC
DURHAM 27710
U OF WISCONSIN 919 684-6610

SOCKWELL, SAMUEL THOMAS — S
88 00 85
209-C BRANSON ST.
CHAPEL HILL 27514
U OF NC 919 933-6668

SOFLEY, CARL WILSON, JR. — R
86 00 84
319 KILBOURNE RD.
COLUMBIA, SC 29205
U OF NC 803 254-5847

SOLTYS, JOHN JOSEPH — P /CHP AC
59 59 79
UNC, MEDICAL WING D, 208-H
CHAPEL HILL 27514
HARVARD 919 966-5277

SOMERS, WILLIAM ALAN — ORS AC
72 72 81
1830 HILLANDALE ROAD
DURHAM 27705
DUKE 919 286-1249

SOMKUTI, STEPHEN GEORGE — S
90 00 86
2601 STUART DR.
DURHAM 27707
U OF NC 919 489-9434

SORROW, JOHN MITCHELL, JR. — IM /CD AC
46 46 54
N. C. MEMORIAL HOSPITAL
CHAPEL HILL 27514
U OF PENN 919 962-8336

SOTOLONGO, CARLOS A. — FP AC
81 83 87
5501 FORTUNE RIDGE DR., STE. A
DURHAM 27713
AUTONOMA U 919 544-3737

SPANGLER, THOMAS CLAYTON — ORS R
84 00 84
1603 ARTHUR DR.
GRAHAM 27253
U OF NC 919 226-6586

SPARLING, PHILIP FREDERICK — ID /IM AC
62 62 70
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514
HARVARD 919 966-2536

SPENCER, ROGER FELIX — P /PYA AC
59 63 63
NCMH, 201 SOUTH WING
CHAPEL HILL 27514
HARVARD 919 966-4622

SPOCK, ALEXANDER — PDA /A AC
55 60 65
BOX 2994, DUMC
DURHAM 27710
U OF MARYLAND 919 681-3364

SPRAGUE, DAVID HUGH — AN AC
69 70 85
UNC-DEPT. OF ANES.
CHAPEL HILL 27514
ALBANY MED COLL 919 966-3371

SPRUILL, THOMAS RAYFORD — P R
83 85 86
RT. #5, BOX 200
HILLSBOROUGH 27278
LA STATE U 919 732-7500

STANKUS, PAUL VICTOR — AN AC
76 76 81
7 LITCHFORD ROAD
CHAPEL HILL 27514
U OF NC 919 967-5295

STAREK, PETER JOSEF KARL — TS /GS AC
64 64 71
UNC, DIV. OF CARDIO-SURGERY
CHAPEL HILL 27514
OHIO STATE U 919 966-3381

STEIN, JEANNETTE FISCHER — IM AC
81 82 86
1301 FAYETTEVILLE ST.
DURHAM 27707
U OF NC 919 683-1316

STEPHENSON, JOHN HADDON — S
89 00 85
130 HOMESTEAD RD.
CHAPEL HILL 27514
U OF NC 919 968-6454

STEVENS, WILLIAM ROSS — S
89 00 85
1707 WARD ST.
DURHAM 27707
DUKE 919 496-3046

STEVENSON, KARL — CHP /P AC
66 66 73
2609 N. DUKE ST., STE. 103
DURHAM 27704
BOWMAN GRAY 919 471-3487

STICKEL, DELFORD LEFEW — GS AC
53 58 62
BOX 3917, DUMC
DURHAM 27710
DUKE 919 684-6129

STOKES, THOMAS ANGIER, JR. — GYN AC
55 55 60
2609 N. DUKE ST., STE. 102
DURHAM 27704
DUKE 919 477-2183

STONE, LISA MARIE — S
88 00 85
21 PRESTWICK PLACE
DURHAM 27705
DUKE 919 286-2377

STOPFORD, WOODHALL — OM /IM AC
69 70 80
BOX 2914, DUMC
DURHAM 27710
HARVARD 919 684-6677

STRATTON, IDA JANICE DEAS — PD /PH AC
61 61 84
414 E. MAIN ST.
DURHAM 27701
TULANE U 919 682-8176

STRATTON, JOHN PERLEY — IM /HEM AC
61 61 69
2609 N. DUKE ST., STE. 304
DURHAM 27704
HARVARD 919 471-8446

STROPE, GERALD LELAND — PD /PUD AC
74 75 81
UNC, 635 CLINICAL SCI. BLDG.
CHAPEL HILL 27514
U OF ROCHESTER 919 966-1055

STROUP, T. SCOTT — S
89 00 85
108 STINSON ST.
CHAPEL HILL 27514
U OF NC

SUGARMAN, JEREMY — IM
86 00
28 JUSTIN CT.
DURHAM 27705
DUKE 919 477-94

SUGIOKA, KENNETH — AN L/P
49 54
RT. #7, BAYBERRY DR.
CHAPEL HILL 27514
WASHINGTON U 919 933-04

SUGIOKA, MARY HINTERNHOFF — PD A
67 67
CCSDL, BSRC 220-H
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514
DUKE 919 966-517

SULLIVAN, DANIEL CARL — R /P A
70 70
BOX 3808, DUMC
DURHAM 27710
U OF VERMONT 919 684-271

SULLIVAN, ROBERT JOSEPH, JR. — IM /FP A
66 71
BOX 3003, DUMC
DURHAM 27710
CORNELL U 919 684-224

SUMMERS, FRED DAVIDSON, JR. — OBG R
63 63
ROUTE #1, BOX 181
CHAPEL HILL 27514
U OF NC 919 929-215

SUMNER, BRIAN MONTGOMERY — S
88 00
218 CEDARWOOD LANE
CARRBORO 27510
U OF NC 919 967-647

SUTTON, SYLVIA — S
88 00
PO BOX 3574
CHAPEL HILL 27515
U OF NC 919 967-728

SWEENEY, CHARLOTTE A. — OBG R
83 00
RT. #2, BOX 195
CONOVER 28613
EAST CAROLINA U

SWIFT, MICHAEL RONALD — IM AC
62 62
NCMH, BSRC 220-H
CHAPEL HILL 27514
NEW YORK U 919 966-226

SWIFT, RONNIE GORMAN — P AC
75 76
ROUTE #7, BOX 284
CHAPEL HILL 27514
U OF NC 919 933-585

SYKES, KASSELL EUGENE, JR. — S
88 00 85
306 ESTES DR., APT. G-11
CARRBORO 27510
U OF NC 919 942-849

SYKES, LISA CAROL — S
89 00 85
204-A HOWELL ST.
CHAPEL HILL 27514
U OF NC 919 968-472

TAFT, TIMOTHY NED — ORS AC
69 72 73
UNC, DIV. OF ORS
CHAPEL HILL 27514
U OF MISSOURI 919 966-203

TALBERT, LUTHER MARCUS — OBG /END AC
53 59 59
N. C. MEMORIAL HOSPITAL
CHAPEL HILL 27514
U OF VIRGINIA 919 966-5438

TALTON, INGEBORG HILDEBRAND — AN AC
51 66 68
2725 MONTGOMERY ST.
DURHAM 27705
JUSTUS-LIEBIG U 919 684-3591

TARRY, WALLACE CLEMENTS — S
89 00 85
208 E. KNOX ST.
DURHAM 27702
DUKE 919 693-3223

TAYLOR, CATHERINE ANNE — CHP /PD AC
57 57 70
NCMH, DIV. OF CHILD PSY.
CHAPEL HILL 27514
U OF TENNESSEE 919 966-2166

TAYLOR, JENNIFER ELAINE — AN AC
78 79 84
BOX 3061, DUMC
DURHAM 27710
U OF MARYLAND 919 684-2945

TENNISON, MICHAEL BYRON — CHN /PD AC
75 79 81
UNC SCHOOL OF MEDICINE
751 BURNETT-WOMACK BLDG. 229-H
CHAPEL HILL 27514
HARVARD 919 966-2528

32. DURHAM-ORANGE COMPONENT SOCIETY (Continued)

NNYSON, GARY S. PTH R 85 85 87
720 SHADY LAWN RD.
CHAPEL HILL 27514
U OF NY-ST BROOK 919 929-8599

PLIN, STUART WARREN PD AC 73 74 83
UNC,DDDL/BSRC 220-H
CHAPEL HILL 27514
U OF PENN 919 966-5171

RRELL, GRACE EMERSON S 89 00 85
11 BREMROSE CIR.
DURHAM 27705
DUKE 919 493-3147

RRY, ROY CLARENCE S 89 00 86
-L ESTES PARK APTS.
CARRBORO 27510
U OF NC 919 967-6485

IELMAN, NATHAN M. S 90 00 86
2752 MIDDLETON AVE. APT. 31-J
DURHAM 27705
DUKE 919 383-0025

IERJUNG, CHRISTINA S 89 00 86
915 ERWIN RD. APT. D
DURHAM 27705
DUKE 919 684-6369

OMAS, COLIN GORDON, JR GS AC 43 52 52
UNC,BURNETT-WOMACK 229H
CHAPEL HILL 27514
U OF CHICAGO 919 966-4597

OMPSON, ERVIN MAGNUS P AC 72 76 86
1643 N. ROXBORO ST.
DURHAM 27704
VANDERBILT U 919 470-6241

OMPSON, LAWRENCE KESLAR, III PS AC 61 61 70
2609 N. DUKE ST., STE. 401
DURHAM 27704
DUKE 919 471-2502

EDEMAN, JAMES STUART OPH AC 77 80 83
BOX 3802, DUMC
DURHAM 27710
DUKE 919 684-3090

LLEY, AUBREY GRANVILLE P AC 52 56 56
10 LAUREL HILL ROAD
CHAPEL HILL 27514
U OF VIRGINIA 919 942-5754

MSICK, ROBERT S. D AC 76 77 85
UNC, DEPT. OF DERMATOLOGY
CHAPEL HILL 27514
U OF NC 919 966-4506

ACHMAN, JAYNE FELICIA S 89 00 85
909 YEARBY AVE., APT. F
DURHAM 27705
DUKE 919 684-5588

ASK, TODD WILSON S 89 00 86
12 MOSS BARK LANE
CHAPEL HILL 27514
U OF NC 919 942-2319

AVIS, JO MARLENE AN R 86 00 85
-5 HARDING AVENUE
BRANFORD, CT 06405
U OF NC 203 481-7026

EMONT, STEPHEN J. ON AC 74 79 86
2420 LAKE BOONE TRAIL
REX CANCER CENTER
RALEIGH 27607
TUFTS U

UETT, ARTIS PRESTON, III S 88 00 84
2672 HITCHCOCK DR.
DURHAM 27705
DUKE 919 479-5299

CKER, LANDRUM S., JR. PYA /CHP AC 66 66 74
FRANKLIN SQUARE, BLDG 900-A
CHAPEL HILL 27514
STANFORD U 919 942-8716

RNER, LARRY OPH /OTO L 39 41 47
110 W. MAIN STREET
DURHAM 27701
DUKE 919 682-9341

RPIN, JAMES WESLEY OM /FP R 55 55 81
231 FOREST HILL RD.
CHAPEL HILL 27514
EMORY U 919 942-4743

EED, JOHN LINDSEY S 88 00 85
911 VICKERS AVE.
DURHAM 27701
DUKE 919 688-0527

URBANIAK, JAMES RANDOLPH ORS /HS AC 62 62 70
BOX 2912, DUKE HOSPITAL
DURHAM 27710
DUKE 919 684-2476

UTHE, WILLIAM FREDERICK IM AC 74 77 80
1901 HILLANDALE ROAD
DURHAM 27705
MED COLL OF OHIO 919 383-1518

VAN DYKE, ALLEN H., JR. OBG /GYN AC 71 71 77
2609 N. DUKE ST., STE. 204
DURHAM 27704
BOWMAN GRAY 919 471-8402

VAN TASSEL, ERIC D. IM /CD R 82 82 79
410 EDGELAND PLACE
BIRMINGHAM, AL 35209
U OF NC 919 942-4810

VANDIVIERE, H. MAC PUD /PD AC 60 60 61
U. OF KENTUCKY, PED. MN 102
LEXINGTON, KY 40536
U OF NC 606 233-5857

VARIA, INDIRA MAHESH P AC 68 76 81
BOX 3857, DUMC
DURHAM 27710
M P SHAH MED COL 919 929-6726

VARIA, MAHESH AMRATLAL TR AC 67 73 77
RADIATION ONCOLOGY-UNC
NCMH BASEMENT
CHAPEL HILL 27514
U OF LIVERPOOL 919 966-1101

VARTANIAN, VARTAN AN RT 61 66 77
23 CLOVER PL.
DURHAM 27705
DUKE 919 684-6841

VAUGHAN, DANIEL PATRICK IM /ADL AC 71 72 75
UNC, STUDENT HEALTH
CHAPEL HILL 27514
WAYNE STATE U 919 966-2281

VAUGHAN, ROBERT WILLIAM AN AC 66 66 84
101 BARNHILL PLACE
CHAPEL HILL 27514
U OF TEXAS-SW 919 966-5136

VICK, WILLIAM WOODROW PTH S 87 00 84
214 TALLYHO TRAIL
CHAPEL HILL 27514
DUKE 919 933-5531

VIGLIONE, CHERYL ANNE DR /GP AC 79 79 82
213 NORTHWOOD DR.
CHAPEL HILL 27514
PENN STATE U 919 942-3196

VOGLER, JAMES BREVARD, III DR AC 77 77 74
BOX 3808, DUMC
DURHAM 27710
BOWMAN GRAY 919 684-2711

VUKOSON, MATTHEW BRUCE FP AC 77 78 81
UNC, STUDENT HEALTH SERVICE
CHAPEL HILL 27514
WEST VA U 919 966-2281

WADSWORTH, JOSEPH A.C. OPH L 39 65 65
1830 HILLANDALE RD.
DURHAM 27705
DUKE 919 383-5531

WALKER, RICHARD ISLEY IM /HEM AC 54 54 62
N. C. MEMORIAL HOSPITAL
CHAPEL HILL 27514
HARVARD 919 966-4546

WALLACE, ANDREW G. CD AC 59 60 87
BOX 3708, DUMC
DURHAM 27710
DUKE 919 684-5414

WALSTON, ABE, II CD /IM AC 63 63 76
306 S. GREGSON STREET
DURHAM 27705
DUKE 919 682-5561

WALTERS-SCHERRER, BARBARA A. R 85 85 86
417 COLONY WOODS DR.
CHAPEL HILL 27514
MI. ST U-OST MED 919 968-4652

WALTERS, BRADFORD BLAIR NS AC 79 80 86
UNC-NEUROSURGERY
BURNETT-WOMACK BLDG 229H
CHAPEL HILL 27514
HARVARD 919 966-1374

WALTHER, PHILIP JOHN U AC 75 77 83
BOX 3314, DUMC
DURHAM 27710
DUKE 919 684-5235

WARBURTON, SAMUEL W.,JR. FP AC 69 70 81
407 CRUTCHFIELD STREET
DURHAM 27704
U OF PENN 919 471-4421

WARD, WILLIAM GOODE ORS R 78 80 84
21 GORHAM PLACE
DURHAM 27705
DUKE 919 383-9667

WARDEN, CLARK GERARD GS R 84 84 84
212 CEDARWOOD LANE
CARRBORO 27510
TULANE U 919 967-9414

WARREN, JEFFERY STEVEN EM /GS R 82 82 80
C/O W. JEFF WARREN
227 W. MARSH ST.
SALISBURY 28144
DUKE

WASHINGTON, MARY KAY PTH S 87 00 84
503 E. TRINITY AVE.
DURHAM 27701
U OF NC 919 688-0297

WATKINS, WALTER DAVID AN /PA AC 75 78 84
BOX 3081, DUMC
DURHAM 27710
U OF COLORADO 919 681-2498

WATSON, RICHARD BALDWIN AN R 80 80 85
816 ARCHDALE DR.
DURHAM 27707
TULANE U 919 684-6255

WATTS, CHARLES DEWITT GS /ABS AC 43 45 67
510 SIMMONS STREET
DURHAM 27701
HOWARD U 919 688-3391

WEAVER, JAMES PHILLIP GS /CDS AC 69 71 84
1830 HILLANDALE ROAD
DURHAM 27705
U OF PENN 919 383-5531

WEBB, BAILEY PD L 46 49 49
APT. 14, ALASTAIR COURT APTS.
300 SWIFT AVE.
DURHAM 27705
DUKE 919 286-2202

WEBB, MICHAEL STEPHEN, JR. S 89 00 85
229-A BRIDGEFIELD PLACE
DURHAM 27705
DUKE 919 383-4960

WEBER, ERIC D. NS R 81 82 85
2 CARSON CIRCLE
DURHAM 27705
SYRACUSE 919 383-0465

WEBSTER, GEORGE DAVID U AC 68 77 79
DUMC, DIV. OF UROLOGY
DURHAM 27710
U OF BIRMINGHAM 919 684-2516

WECHSLER, ANDREW STEPHEN CDS /GS AC 64 68 81
DUKE UNIV. MED. CTR.
DURHAM 27710
DOWNSTATE ME CTR 919 684-5282

WEINERTH, JOHN LOUIS U /GS AC 67 71 73
DUKE, DEPT. OF SURGERY
DURHAM 27710
HARVARD 919 684-4157

WEINRICH, A. ELISE D AC 78 78 83
2609 N. DUKE ST. STE. 505
DURHAM 27704
MED U OF SC 919 477-2121

WEISS, JAMES RICHARD P AC 73 76 79
400 EASTOWN DR., STE. 102
CHAPEL HILL 27514
LA STATE U 919 489-2671

WEISS, MATTHEW JAY GER R 79 00 87
910 CONSTITUTION #1003
DURHAM 27705
MI. ST U-OST MED 919 383-9755

WEISSLER, MARK C. OTO /HNS AC 80 80 86
610 BURNETT-WOMACK BLDG.229H
UNC SCHOOL OF MEDICINE
CHAPEL HILL 27514
BOSTON U 919 966-3341

32. DURHAM-ORANGE COMPONENT SOCIETY (Continued)

WEITZNER, STANLEY WALLACE AN AC
417 LYONS ROAD 53 54 78
CHAPEL HILL 27514
NEW YORK U 919 684-2425

WELLMAN, DAVID KENTON GS /EM AC
2413 MONT HAVEN DR. 72 72 79
DURHAM 27712
DUKE 919 383-5055

WELLS, JAMES SHELTON, JR. P /PYM AC
ROUTE #3, BOX 456 77 78 75
HILLSBOROUGH 27278
U OF NC 919 967-6353

WELLS, WARNER LEE GS L/RT
109 PARK PLACE #4 38 41 46
CHAPEL HILL 27514
DUKE 919 968-0069

WERTMAN, DANIEL EDWARD, JR. R AC
DURHAM GEN. HOSP-RAD. 76 77 84
DURHAM 27704
OHIO STATE U 919 471-3411

WESTON, BRENT WILLIAM PD R
301 OLD FOX TRAIL 85 85 85
DURHAM 27713
DUKE 919 489-1765

WHALEN, ROBERT EMMET CD /IM AC
DUKE UNIV. MED. CTR. 56 59 68
DURHAM 27710
CORNELL U 919 684-6315

WHALEY, ROBERT ALLAN DR /N AC
748 SHADYLAWN ROAD 58 66 80
CHAPEL HILL 27514
M C OF WISCONSIN 919 966-4397

WHANGER, ALAN DUANE P AC
1712 WOODBURN ROAD 56 56 70
DURHAM 27705
DUKE 919 684-2545

WHATLEY, JOSEPH WILLIAM, JR. PDA /A AC
2919 COLONY ROAD 59 59 63
DURHAM 27705
DUKE 919 489-9158

WHEELER, CLAYTON EUGENE, JR. D /IM AC
NCMH, DEPT. OF DERMATOLOGY 41 62 62
CHAPEL HILL 27514
U OF WISCONSIN 919 966-4507

WHISNANT, JOHN KEENAN, JR. PD /ON AC
237 HUNTINGTON DR. 68 68 80
CHAPEL HILL 27514
BOWMAN GRAY 919 248-4160

WHITESIDES, DANIEL BAXTER OBG /END R
4404 CHESHIRE CT. 76 85 85
DURHAM 27705
DUKE 919 383-8731

WILCOX, BENSON REID CDS AC
108 BURNETT-WOMACK 57 57 65
UNC, 229-H
CHAPEL HILL 27514
U OF NC 919 966-3381

WILCOX, WILLIAM DAVID OPH AC
116 CRUTCHFIELD ST. 70 71 84
DURHAM 27704
U OF PITTSBURGH 919 477-8050

WILFERT, CATHERINE M. MINOCK PD /ID AC
BOX 2951, DUMC 62 62 85
DURHAM 27710
HARVARD 919 684-6610

WILKINSON, ROBERT HOLDEN, JR. NM /R AC
BOX 3949, DUMC 58 67 68
DURHAM 27710
WASHINGTON U 919 681-2711

WILLIAMS, EDWARD SUTHERLIN IM /CD AC
306 S. GREGSON STREET 54 54 64
DURHAM 27701
U OF NC 919 682-5561

WILSON, FRANK CRANE ORS AC
N. C. MEMORIAL HOSPITAL 54 64 64
CHAPEL HILL 27514
MED COLL OF GA 919 966-3359

WILSON, JAMES STEPHENSON GS L
1830 HILLANDALE ROAD 37 47 47
DURHAM 27705
DUKE 919 383-5531

WILSON, PATRIC ALOYSIUS S
10A CEDAR VILLAGE 90 00 86
CHAPEL HILL 27514
U OF NC 919 967-8931

WILSON, WILLIAM PRESTON P AC
P. O. BOX 2347 47 50 53
BURLINGTON 27215
DUKE 919 229-6049

WINFIELD, JOHN BUCKNER RHU /IM AC
UNC DEPT. OF MEDICINE 68 69 79
CHAPEL HILL 27514
CORNELL U 919 966-4191

WOLFE, WALTER GEORGE CDS /TS AC
BOX 3507, DUMC 63 63 72
DURHAM 27710
TEMPLE U 919 684-4117

WOMBLE, JAMES CORNELIUS R
170 PENMOKEN PARK 86 00 83
LEXINGTON, KY 40503
U OF NC 606 278-3081

WOMBWELL, JOSEPH ORS /HS R
2417 BRUTON 80 81 84
DURHAM 27706
U OF KENTUCKY 919 489-9312

WOOD, WILLIAM BAINSTER IM /PUD AC
UNC, 231 MACNIDER BLDG. 56 56 63
CHAPEL HILL 27514
U OF NC 919 962-2118

WOODARD, PAMELA K. S
201 ALEXANDER ST. APT. AA 90 00 86
DURHAM 27705
DUKE 919 684-7402

WOODLEY, DAVID TIMOTHY D /IM AC
NCMH, DEPT. OF DERM., ROOM 137 73 76 85
CHAPEL HILL 27514
U OF MISSOURI 919 966-4506

WOODRUFF, WILLIAM WALTER, III DR R
PO BOX 5007 82 83 84
HIGH POINT 27262
DUKE

WOODS, JON POINTON S
113 PUREFOY ROAD, APT. D 88 00 83
CHAPEL HILL 27514
U OF NC 919 942-0654

†WORDE, BOYD THOMAS TR AC
BOX 3085, DUKE HOSPITAL 47 59 59
DECEASED - 3-19-87
DURHAM 27710
U OF TENNESSEE 919 684-3742

WORKMAN, JOSEPH BERKELEY NM /IM AC
219 COUNTRY CLUB DRIVE 46 46 72
DURHAM 27712
U OF MARYLAND 919 681-2711

WORLEY, GORDON, III PD AC
307 BIRCH CIRCLE 73 73 87
CHAPEL HILL 27514
HARVARD 919 683-6890

WRIGHT, JOHN JOSEPH PH L/RT
105 LAUREL HILL CIRCLE 35 35 42
CHAPEL HILL 27514
VANDERBILT U 919 942-4557

WRIGHT, PAUL HARLAN ORS AC
1901 HILLANDALE ROAD 74 74 73
DURHAM 27705
BOWMAN GRAY 919 383-1511

WU, JUSTIN JA-LI S
BOX 2826, DUMC 90 00 86
DURHAM 27710
DUKE 919 781-7251

WYNN, TONJA MICHELLE
136-B PUREFOY RD. 89 00 8
CHAPEL HILL 27514
U OF NC 919 929-42

WYSOR, WILLIAM GEOFFREY, JR. IM /GE A
306 S. GREGSON STREET 50 57
DURHAM 27701
U OF VIRGINIA 919 682-55

YADAV, SANJAY SINGH N /IM
BOX 3053, DUMC 83 84
DURHAM 27710
WEST VA U 919 286-23

YANCY, WILLIAM SAMUEL PD /ADL A
306 S. GREGSON STREET 65 65
DURHAM 27701
DUKE 919 688-63

YARBROUGH, WENDELL GRAY
320 ASHLEY FOREST RD. 89 00 8
CHAPEL HILL 27514
U OF NC 919 924-24

YARLEY, DEWEY HOBSON IM A
2609 N. DUKE STREET 56 56
DURHAM 27704
U OF NC 919 471-84

YEAGER, CHARLES FRANK TR /PTH
4205 LIVINGSTONE PLACE 74 84
DURHAM 27707
U OF ALABAMA

YEH, FLORA MEI-CHING
4408-B AMERICAN DR. 90 00 8
DURHAM 27705
DUKE 919 286-92

YOSHINO, PAUL HARUTAKA
1315 MORREENE RD. APT. 27-J 88 00 8
DURHAM 27705
DUKE 919 383-60

YOUNG, DANIEL TEST CD /IM A
UNC,338 CLINICAL SCI. 229-H 50 50
CHAPEL HILL 27514
HARVARD 919 966-46

YOUNG, NOEL WILLIAM, JR. OPH A
2609 N. DUKE STREET 63 63
DURHAM 27704
DUKE 919 471-84

YOUNG, WILLIAM GLENN, JR. TS /CDS A
DUKE UNIV. MED. CTR. 48 50
DURHAM 27710
DUKE 919 684-20

YOUNG, WILLIAM P. W. ADL /PD A
UNC STUDENT HEALTH SERVICE 58 58
CHAPEL HILL 27514
MED COLL OF VA 919 966-22

YOUNT, WILLIAM JAY RHU /AI A
UNC,932 FLOB BLDG. 231-H 60 60
CHAPEL HILL 27514
U OF WISCONSIN 919 966-41

YOWELL, ROBERT KLUTTZ OBG A
2609 N. DUKE ST., STE. 204 61 61
DURHAM 27704
DUKE 919 471-84

ZAROFF, WENDY ANNE
3-J POST OAK RD. 89 00 8
DURHAM 27705
DUKE 919 383-782

ZELDIN, DARRYL C. IM
4800 UNIVERSITY DR. 86 86
DURHAM 27707
INDIANA U 919 286-39

ZISLIS, PAUL DAVID P
1002 WILLOW DR. #58 81 00
CHAPEL HILL 27514
AUTONOMA U 919 933-775

33. EDGECOMBE COMPONENT SOCIETY

FFICERS—**President:** Deborah Fulbright, M.D., 1203 Howard Ave., Tarboro 27886 (919 641-7155)
Secretary: John G. Morgan, M.D., 101 Clinic Dr., Tarboro 27886 (919 823-2105)

OOKS, JOHN IRVING, JR. IM AC
TARBORO CLINIC 58 58 64
01 CLINIC DR.
TARBORO 27886
J OF NC 919 823-2105

AWFORD, ROBERT ORR, JR. OPH AC
01 CLINIC DR. 54 54 58
TARBORO 27886
OWMAN GRAY 919 823-2105

TCHIN, LAWRENCE MCGILBRA IM /PD AC
RT. #3, BOX 325 62 62 69
TARBORO 27886
J OF NC 919 823-2105

EW, JOHN EDWIN FP AC
P. O. BOX 337 60 60 61
MACCLESFIELD 27852
OWMAN GRAY 919 827-5231

LBRIGHT, DEBORAH KAY PTH AC
203 HOWARD AVE. 79 79 84
TARBORO 27886
J OF ARKANSAS 919 641-7155

MINGWAY, GEORGE CAPERS,JR. IM /PD AC
01 CLINIC DRIVE 63 63 70
TARBORO 27886
J OF NC 919 823-2105

, MARK TIMOTHY IM AC
01 CLINIC DR. 81 82 85
TARBORO 27886
OWMAN GRAY 919 823-2105

GHES, RONALD EUGENE FP /OM AC
PO BOX 760 78 79 82
WHITAKERS 27891
J OF NC 919 437-2171

HUSSEY, HOWARD SUMMERELL, JR. FP L/RT
908 ST. ANDREW STREET 42 42 43
TARBORO 27886
JEFFERSON 919 823-2534

KELSH, JAMES MICHAEL GS AC
101 CLINIC DRIVE 58 58 69
TARBORO 27886
U OF MARYLAND 919 823-2105

LEBLANG, STEVEN SETH FP AC
PO BOX 688 81 82 85
PINETOPS 27864
BOWMAN GRAY 919 827-5135

LEE, DAVID WAYNE AC
101 CLINIC DR. 82 00 79
TARBORO 27886
U OF NC 919 823-2105

MARROW, JANE GREGORY GYN AC
1003 MAIN STREET 43 43 71
TARBORO 27886
DUKE 919 823-8491

MILLER, DAVID CHARLES ORS AC
123 HOSPITAL DR. 80 80 86
TARBORO 27886
HAHNEMANN 919 823-7212

MORGAN, JOHN GARLAND GS /CDS AC
101 CLINIC DR. 62 62 75
TARBORO 27886
DUKE 919 823-2105

NAVE, LESTER DAVID, JR. FP AC
111 FAIRVIEW ROAD 81 83 85
ROCKY MOUNT 27801
BOWMAN GRAY 919 446-3333

NEWTON, DALE ALAN IM /PD AC
101 CLINIC DRIVE 73 74 75
TARBORO 27886
U OF NC 919 823-2105

PETERS, ROBERT BROOKES, IV FP AC
101 CLINIC DRIVE 80 81 84
TARBORO 27886
U OF NC 919 823-2105

QUIGLESS, MILTON DOUGLAS, SR. GP /D AC
P. O. BOX 368 34 34 80
TARBORO 27886
MEHARRY MED COLL 919 823-2112

ROBERSON, EDWARD LEON GS L/RT
807 MAIN STREET 34 34 37
TARBORO 27886
U OF MARYLAND 919 823-3035

TEMPLE, PETER LIVERMORE FP AC
101 CLINIC DRIVE 63 68 68
TARBORO 27886
EMORY U 919 823-2105

THOMPSON, KENNETH COCHRAN P AC
101 CLINIC DRIVE 61 61 71
TARBORO 27886
U OF CINCINNATI 919 823-2105

VICK, HENRY VERNELL FP AC
101 CLINIC DRIVE 55 55 59
TARBORO 27886
BOWMAN GRAY 919 823-2105

WINSLOW, JAMES WEEKS FP AC
101 CLINIC DRIVE 75 75 79
TARBORO 27886
U OF NC 919 823-2105

34. FORSYTH-STOKES-DAVIE COMPONENT SOCIETY

FFICERS—**President:** M. Robert Cooper, M.D., 300 S. Hawthorne Rd., Winston-Salem 27103 (919 748-4300)
Secretary: William J. Spencer, M.D., 2933 Maplewood Ave., Winston-Salem 27103 (919 765-6020)
Executive Director: Mr. James T. Robinson, 1401-D Old Mill Circle, Winston-Salem 27103 (919 760-1235)

AMS, HARLEY STEWART R L/RT
2710 ST. CLAIRE ROAD 42 50 50
WINSTON-SALEM 27106
CASE WESTERN RES 919 768-3555

AMS, MELANIE S
300 S. HAWTHORNE RD., BOX 447 89 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 760-2292

AMS, PATRICIA LEE NEP /IM AC
300 S. HAWTHORNE RD. 74 74 80
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4538

BERTSON, DAVID ALLEN GS AC
BOWMAN GRAY 72 72 73
DEPT. OF SURGERY
WINSTON-SALEM 27103
J OF VIRGINIA 919 748-4442

EXANDER, BRIAN A. S
217-B NEW DR. APT. D 90 00 86
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-7946

EXANDER, EBEN, JR. NS L
BOWMAN GRAY SCH. OF MED. 39 48 48
WINSTON-SALEM 27103
HARVARD 919 748-4082

LEN, DAVID HENRY CHP /P AC
3334 ASHLEY SQUARE 64 64 72
WINSTON-SALEM 27103
WASHINGTON U 919 765-1866

LEN, ELMS LEACH HEM /ON AC
3314 HEALY DR. STE. 107 66 66 74
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-2521

LEN, JOANNE BELL S
PO BOX 448 89 00 86
300 S. HAWTHORNE RD.
WINSTON-SALEM 27103
BOWMAN GRAY 919 777-8288

ALSON, ROY LEE EM R
4447 LAUREL OAKS DR. 85 00 83
ALLISON PARK, PA 15101
BOWMAN GRAY 412 359-3131

ALSUP, ROBERT MARTIN OTO AC
175 CHARLOIS BLVD., STE. 101 74 77 80
WINSTON-SALEM 27103
U OF NC 919 768-3361

ALSUP, WILLIAM BYRN, JR. OTO L/RT
261 WESTVIEW DR. SW 40 47 49
WINSTON-SALEM 27104
MED COLL OF GA 919 724-0487

ANDERSON, ROBERT LOUIS OBG AC
301 CENTRAL ROAD 68 68 79
CLEMMONS 27012
CREIGHTON U 919 760-0444

ANDERSON, STEPHEN GRIFFITH OBG AC
2927 LYNDHURST AVENUE 63 63 71
WINSTON-SALEM 27103
EMORY U 919 765-9350

ANDREW, RAYMOND HALL P AC
779 OAKLAWN AVE. 70 71 84
WINSTON-SALEM 27104
U OF ILLINOIS 919 768-4730

ANGELO, JEAN NICHOLAS NA /PTH AC
BOWMAN GRAY, DEPT. OF PTH 50 55 80
WINSTON-SALEM 27103
TUFTS U 919 748-4311

ANTONAKOS, THEODORE GS L
P. O. BOX 8 35 36 46
DANBURY 27016
MED COLL OF GA 919 593-8276

ASSIMOS, DEAN GEORGE U AC
BOWMAN GRAY SCH. OF MEDICINE 77 78 86
WINSTON-SALEM 27103
LOYOLA U 919 748-4131

AUSTIN, WILLIAM ELLIOT GE /IM AC
1830 HAWTHORNE ROAD 75 76 81
WINSTON-SALEM 27103
MED COLL OF VA 919 765-0463

BAGWELL, ROBERTA L. S
1811 ELIZABETH AVE. 90 00 87
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-3154

BAHNSON, EDWARD REID IM /OM L/RT
2725 WINDSOR ROAD 42 42 48
WINSTON-SALEM 27104
U OF PENN 919 768-7784

BALL, JAMES DALE NM AC
DIV. OF NUCLEAR MEDICINE 69 70 78
WINSTON-SALEM 27103
NORTHWESTERN U 919 748-3520

BALL, MARSHALL RAY DR AC
BOWMAN GRAY, DEPT. OF RAD. 68 68 77
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4435

†BARBER, TRACY EZRA OM
3009 LOOKOUT COURT 43 46 78
DECEASED - 4-87
WINSTON-SALEM 27106
TEMPLE U 919 768-0555

BARNHILL, LARRY JARRETT,JR. CHP /P AC
190 CHARLOIS BLVD. 75 75 80
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-6930

BARRETT, ROLLAND JOHN, II GYN /ON AC
300 S. HAWTHORNE RD. 79 80 85
WINSTON-SALEM 27103
U OF MICHIGAN 919 748-2011

BARTON, JOHN HOMER, JR. S
160 SARATOGA ST. 87 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-7946

BASS, DAVID ALDEN ID /IM AC
BOWMAN GRAY, DEPT. OF IM 68 74 83
WINSTON-SALEM 27103
JOHNS HOPKINS 919 748-4246

34. FORSYTH-STOKES-DAVIE COMPONENT SOCIETY (Continued)

BEASON, EDWARD STEWART PS AC
1732 S. HAWTHORNE ROAD 63 64 73
WINSTON-SALEM 27103
U OF ALABAMA 919 765-3540

BEESE, STEPHEN ARTHUR FP AC
429 S. SUNSET DRIVE 82 83 83
WINSTON-SALEM 27103
MED U OF SC 919 722-1748

BELL, WILLIAM OSGOOD NS AC
BOWMAN GRAY, DEPT. OF NS 77 78 85
WINSTON-SALEM 27103
HAHNEMANN 919 748-4047

BEY, RICHARD DOUD N AC
160 CHARLOIS BOULEVARD 79 79 84
WINSTON-SALEM 27103
YALE 919 768-5834

BICKET, DAPHNE PATRICIA S
2318-C ARDMORE TERRACE 87 00 86
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-4862

BILLINGS, JACK SMITH FP AC
540 HOLMES DRIVE 58 59 62
RURAL HALL 27045
BOWMAN GRAY 919 969-9158

BISHOP, PATTE JAYNE PDS AC
300 S. HAWTHORNE RD. 76 77 86
WINSTON-SALEM 27103
U OF CA-DAVIS 919 748-4502

BITTINGER, ISABEL ORS L
118 S. CHERRY ST., 36 39 48
PO BOX 10668
WINSTON-SALEM 27108
JOHNS HOPKINS 919 725-0656

BLAKE, DAMON DALTON TR AC
BOWMAN GRAY SCH. OF MED. 50 55 58
WINSTON-SALEM 27103
COLUMBIA U 919 748-4981

BLAKE, SIDNEY ALLEN S
1730-J FRANCISCAN TERR. 90 00 86
WINSTON-SALEM 27107
BOWMAN GRAY 919 788-5646

BLEVINS, VIRGINIA KAY IM AC
250 CHARLOIS BLVD. 82 84 86
WINSTON-SALEM 27103
MARSHALL U 919 768-4730

BLOOMFIELD, ROBERT LEE IM AC
741 HIGHLAND AVENUE 77 79 82
WINSTON-SALEM 27101
DUKE 919 727-8165

BLOUNT, FREDERICK ALEXANDER PD L/RT
2390 COLISEUM DRIVE 43 44 49
WINSTON-SALEM 27106
U OF PENN 919 724-3072

BOGARD, ANN QUINN OTO AC
1901 S.HAWTHORNE RD.,STE. 240 74 75 80
WINSTON-SALEM 27103
M C OF WISCONSIN 919 768-1308

BOGARD, TERRENCE DALE AN AC
5020 KNOB VIEW TR. 75 76 80
WINSTON-SALEM 27104
M C OF WISCONSIN 919 760-3954

BOND, VERNARD FRANKLIN, JR. IM /CD AC
2240 CLOVERDALE AVE., STE. 215 45 48 51
WINSTON-SALEM 27103
JOHNS HOPKINS 919 724-0181

BOSTIC, WILLIAM CHIVOUS, III ORS AC
SALEM ORTHOPAEDIC ASSOC. PA 59 59 65
PO BOX 25007
WINSTON-SALEM 27114
HARVARD 919 768-1270

BOWEN, EDWYN TAYLOR, JR PD AC
3001 MAPLEWOOD AVENUE 55 61 61
WINSTON-SALEM 27103
EMORY U 919 765-9170

BOWER, STEPHEN LEE DR AC
3155 MAPLEWOOD AVENUE 79 79 80
WINSTON-SALEM 27103
WEST VA U 919 760-5874

BOWMAN, MARJORIE ANN FP /GPM AC
300 S. HAWTHORNE RD. 76 76 77
DEPT. OF FAMILY MEDICINE
WINSTON-SALEM 27103
JEFFERSON

BOWTON, DAVID LOWELL PUD AC
DEPT. OF MEDICINE 75 76 81
BOWMAN GRAY SCH. OF MEDICINE
WINSTON-SALEM 27103
U OF ILLINOIS 919 748-4649

BOYCE, WILLIAM HENRY U AC
BOWMAN GRAY SCH. OF MED. 44 52 52
WINSTON-SALEM 27103
VANDERBILT U 919 748-4131

BOYER, JAY ALLEN DR AC
250 CHARLOIS BOULEVARD 66 70 77
WINSTON-SALEM 27103
TUFTS U 919 768-4730

BOYETTE-KOURI, FRANCES S
BOWMAN GRAY, BOX 190 87 00 84
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-7169

BOYETTE, GRAY THOMAS IM /GE AC
2933 MAPLEWOOD AVENUE 60 60 66
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-1640

BRANCH, CHARLES LEON, JR. NS R
315 JANET ST. 81 83 86
WINSTON-SALEM 27104
U OF TEXAS-SW 919 768-7017

BRANCH, JAMES DAVID OPH AC
224 TOWN RUN LANE 73 74 77
WINSTON-SALEM 27101
HOWARD U 919 723-0748

BRANHAM, HENRY EZELL, JR. P /HYP AC
1409 PLAZA WEST RD., STE. E 57 57 82
WINSTON-SALEM 27103
MED U OF SC 919 768-9393

BRICE, ROBERT SAMUEL, JR. GE /IM AC
1901 HAWTHORNE RD., STE. 310 60 60 64
WINSTON-SALEM 27103
DUKE 919 760-4340

BRIDGER, DEWEY HERBERT, III S
7901 BAYMEADOWS CIR. E#574 87 00 85
JACKSONVILLE, FL 32216
BOWMAN GRAY

BRITTON, BLOYCE HILL, JR. OTO /OT AC
BOWMAN GRAY, DEPT. OF OTO 60 60 84
WINSTON-SALEM 27103
U OF OKLAHOMA 919 745-4161

BROADWELL, FREEMAN EDWARD, III S
306 SPLIT RAIL CIR., APT. 201 87 00 84
NEWPORT NEWS, VA 23602
BOWMAN GRAY

BRODKIN, RICHARD ALAN /HEM AC
2825 LYNDHURST AVE., STE. 103 75 00 73
WINSTON-SALEM 27103
BOWMAN GRAY

BROWN, RAEFORD E., JR. AN AC
300 S. HAWTHORNE RD. 80 82 87
WINSTON-SALEM 27103
U OF NC 919 748-4498

BROWN, THOMAS LAWRENCE OBG AC
145 AFTONSHIRE COURT 77 78 83
WINSTON-SALEM 27104
BOWMAN GRAY 919 765-2802

BROWN, WILLIAM RAY, JR. HNS AC
3080 TRENWEST DR. 70 70 80
WINSTON-SALEM 27104
BOWMAN GRAY 919 765-3750

BRUNER, ROBERT KINCAID S
1732 CAMDEN ROAD 87 00 86
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-5504

BUCKALEW, VARDAMAN M. JR. NEP /IM AC
300 S. HAWTHORNE ROAD 58 58 76
WINSTON-SALEM 27103
U OF PENN 919 748-2062

BURGESS, GLENN NORMAN P AC
190 CHARLOIS BOULEVARD 57 57 75
WINSTON-SALEM 27103
U OF W ONTARIO 919 768-6930

BURKART, JOHN IM /NEP AC
300 S. HAWTHORNE RD. 79 80 87
WINSTON-SALEM 27103
RUSH MED COLL 919 748-3963

BURKHART, CHARLES ANDREW IM /GP AC
345 WESTVIEW DRIVE, S.W. 57 57 75
WINSTON-SALEM 27104
OHIO STATE U 919 761-1541

BUSS, DAVID HUMPHREY PTH /HEM A
237 GRANDVIEW DRIVE 66 66
WINSTON-SALEM 27104
BOWMAN GRAY 919 748-26

BUTLER, JAMES HILTON R A
3155 MAPLEWOOD AVENUE 60 64
WINSTON-SALEM 27103
U OF MISSISSIPPI 919 765-27

BUTLER, RADFORD NORMAN IM A
2240 CLOVERDALE AVE., STE. 206 50 50
WINSTON-SALEM 27103
BOWMAN GRAY 919 725-75

BUTTERWORTH, JOHN F., IV AN A
300 S. HAWTHORNE RD. 79 79
WINSTON-SALEM 27103
MED COLL OF VA 919 748-24

BYRD, KERRY WENDELL
152 CHARLESTOWNE CIRCLE 89 00 8
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-30

CALDWELL, GEORGE LEONHARD,JR.
2038 QUEEN ST. 88 00 8
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-36

CAMPBELL, CHARLES BRUCE, III OPH A
2827 LYNDHURST AVE.,STE. 204 76 78
WINSTON-SALEM 27103
U OF VIRGINIA 919 768-07

CANNON, THOMAS BERNARD FP A
2805 LYNDHURST AVENUE 73 73
WINSTON-SALEM 27103
U OF NC 919 768-88

CANTLEY, LARRY KEITH END A
2933 MAPLEWOOD AVE. 77 77
WINSTON-SALEM 27103
WEST VA U 919 765-16

CAPIZZI, ROBERT LAWRENCE ON /HEM A
300 S. HAWTHORNE RD. 64 66
WINSTON-SALEM 27103
HAHNEMANN 919 748-44

CARLSON, KENNETH PAUL U A
2932 LYNDHURST AVE. 55 65
WINSTON-SALEM 27103
EMORY U 919 765-40

CARLTON, WILLIAM YARBOROUGH P A
509 WESTOVER AVE. 80 82
WINSTON-SALEM 27104
BOWMAN GRAY 919 722-99

CARNES, ROBERT S., III AN A
300 S. HAWTHORNE RD. 77 82
WINSTON-SALEM 27103
U OF SOU CALIF 919 748-29

CARR, JENIFER
248 S. SUNSET DR. 89 00 8
WINSTON-SALEM 27103
BOWMAN GRAY 919 773-03

CARTER, MARGARET FRONEBERGER AN A
FORSYTH MEMORIAL HOSPITAL 75 75 8
3333 SILAS CREEK PARKWAY
WINSTON-SALEM 27103
BOWMAN GRAY 919 760-56

CARTY, BRIAN CLIFFORD
120-4 RAINRIDGE DR. 90 00 8
WINSTON SALEM 27104
BOWMAN GRAY 919 765-71

CASEY, DEBORAH M.
138 N. SUNSET DR. APT. #2 88 00 8
WINSTON-SALEM 27101
BOWMAN GRAY 919 724-44

CASHWELL, LEON FRANKLIN, JR. OPH A
300 S. HAWTHORNE ROAD 72 72 8
WINSTON-SALEM 27103
U OF NC 919 748-40

CELESTINO, FRANK SAMUEL FP A
3400 YORK ROAD 78 82 8
WINSTON-SALEM 27104
U OF ROCHESTER 919 748-22

CHALLA, VENKATA RAMANA PTH /NA A
200 FLINTSHIRE ROAD 69 75 7
WINSTON-SALEM 27104
S V MEDICAL COLL 919 768-05

CHAMBERS, ROBERT TILLMAN PD A
104 BETHESDA MEDICAL CENTER 58 58 6
WINSTON-SALEM 27103
DUKE 919 765-52

34. FORSYTH-STOKES-DAVIE COMPONENT SOCIETY (Continued)

IAN, STEVEN PING S
BOWMAN GRAY STUDENT
BOX 91 88 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 724-1708

HANDLER, EDGAR TED IM AC
741 HIGHLAND AVE. 55 55 58
WINSTON-SALEM 27101
U OF NC 919 727-2097

HANDLER, HOWARD CHRISTY, JR. S
3716 S. W. 2ND PLACE 87 00 85
GAINESVILLE, FL 32607
BOWMAN GRAY 919 722-3709

HEREN, ISA S
1900 QUEEN ST., APT. C-8 88 00 84
WINSTON-SALEM 27103
BOWMAN GRAY 919 724-3782

HICCONE, THOMAS GERARD EM AC
1711 LYNWOOD AVE. 79 80 85
WINSTON-SALEM 27104
GEORGETOWN U 919 765-9328

NTRON, RUBEN S
300 S. HAWTHORNE RD. 90 00 86
MED. STUDENT, BOX 336
WINSTON-SALEM 27103
BOWMAN GRAY 919 773-1564

LARK, ALAN BOYD S
BOWMAN GRAY, BOX 93 88 00 84
WINSTON-SALEM 27103
BOWMAN GRAY 919 724-4572

LARK, MARGARET ANNE IM AC
250 CHARLOIS BOULEVARD 79 82 84
WINSTON-SALEM 27103
CASE WESTERN RES 919 768-4730

LARKE, THOMAS LAWRENCE OBG AC
501 N. CLEVELAND AVENUE 59 60 65
WINSTON-SALEM 27101
MEHARRY MED COLL 919 722-3874

OLAVITA, PAUL G. IM /CD AC
300 S. HAWTHORNE RD. 79 80 87
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4673

OLE, DEBRA WULFHORST S
840 MAGNOLIA DR. 88 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-4036

OLE, ROGER DALE S
840 MAGNOLIA ST. 88 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 724-0761

OLETTA, HARRY MARIO, II FP
MAIN STREET, BOX 678 77 78 81
WALNUT COVE 27052
BOWMAN GRAY 919 591-7205

OLLINS, DAVID DUTROW PUD /IM AC
2825 LYNDHURST AVE., STE. 101 75 77 84
WINSTON-SALEM 27103
DUKE 919 765-0888

OLLINS, WILLIAM STUART P AC
3969 QUILLING ROAD 60 60 68
WINSTON-SALEM 27104
DUKE 919 765-7350

ONRAD, ELIZABETH PD L/RT
1862 RUNNYMEADE RD. 43 46 46
WINSTON-SALEM 27104
JOHNS HOPKINS 919 723-1213

OOK, DAVID OWEN U R
2652 TANTELON PL. 84 85 85
WINSTON-SALEM 27107
BOWMAN GRAY 919 785-0393

OOPER, MILES ROBERT ON /HEM AC
300 S. HAWTHORNE ROAD 62 62 75
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4300

OPELAND, GARY BRENT S
2080 QUEEN ST. 88 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 724-4537

ORDELL, A. ROBERT CDS /TS AC
BOWMAN GRAY SCH. OF MED. 47 50 57
WINSTON-SALEM 27103
JOHNS HOPKINS 919 748-4672

COWAN, ROBERT JENKINS NM /R AC
2869 FAIRMONT ROAD 63 63 70
WINSTON-SALEM 27106
U OF NC 919 748-4932

COWARD, HOLLYJEAN S
305 S. HAWTHORNE RD. APT. 8 88 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 724-4554

COX, JEFFREY NEAL S
537 S. HAWTHORNE RD. APT. 9 88 00 84
WINSTON-SALEM 27104
BOWMAN GRAY 919 725-3571

COX, WILLIAM FOSCUE IM /GPM L/RT
3740 KIRKLEES ROAD 42 47 47
WINSTON-SALEM 27104
MED COLL OF VA 919 765-2626

CREGAN, GREGG EDWARD ORS /HS AC
BOX 25007 78 78 85
1425 PLAZA DR.
WINSTON-SALEM 27114
JEFFERSON 919 768-1270

CROSBY, IVAN KEITH AC
2827 LYNDHURST AVE., STE. 205A
WINSTON-SALEM 27103

CROUSE, JOHN ROBERT, III IM AC
BOWMAN GRAY SCH. OF MED. 69 69 82
300 S. HAWTHORNE ROAD
WINSTON-SALEM 27103
DOWNSTATE ME CTR 919 748-2674

CROWELL, GILES FRANKLIN N AC
201 EXECUTIVE PARK BLVD. 79 79 79
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-6347

CROYLE, TERRENCE ALAN OPH /EM R
110 CAPISTRANO COURT 79 80 85
WINSTON-SALEM 27103
MED COLL OF OHIO 919 760-2646

CRUM, AMY ELIZABETH S
305 S. HAWTHORNE RD. APT. #6 89 00 86
WINSTON-SALEM 27103
BOWMAN GRAY

CRUM, BRYAN GLENN S
315 TAYLOR ST., APT. O 89 00 86
WINSTON-SALEM 27101
BOWMAN GRAY 919 725-7944

CRUTCHFIELD, ANDREW JACKSON IM /CD AC
2240 CLOVERDALE AVE., STE. 93 42 42 50
WINSTON-SALEM 27103
U OF VIRGINIA 919 725-5669

CRUZ, JULIA MARGARITA ON AC
300 S. HAWTHORNE RD. 78 81 86
WINSTON-SALEM 27103
U OF FLORIDA 919 748-2075

CULLEN, PETER PATRICK IM AC
250 CHARLOIS BOULEVARD 72 73 78
WINSTON-SALEM 27103
SYRACUSE 919 768-4730

CURRIE, DONALD PATRICK U AC
PO BOX 24369 66 66 74
WINSTON-SALEM 27114
DUKE 919 768-0735

DAVIS, COURTLAND HARWELL,JR. NS AC
BOWMAN GRAY SCH. OF MED. 44 44 52
WINSTON-SALEM 27103
U OF VIRGINIA 919 748-4083

DAVIS, EDWARD LANGSTON IM /CD AC
2125 NEW WALKERTOWN ROAD 38 38 72
WINSTON-SALEM 27101
HOWARD U 919 723-4281

DAVIS, JOHN PRESTON IM L/RT
329 BANBURY ROAD 34 37 38
WINSTON-SALEM 27104
U OF PENN 919 768-5390

DAVIS, OWEN KIDDER OBG /END R
BRIGHAM AND WOMENS HOSP. 82 83 79
75 FRANCIS ST.
BOSTON, MA 02115
BOWMAN GRAY 617 732-6987

DAVIS, WAYNE EDWARD U AC
PO BOX 24369 49 51 54
WINSTON-SALEM 27114
DUKE 919 768-0735

DAVIS, WILLIAM HERSEY, JR. ADL /PD AC
301 MILLER STREET, SUITE 108 44 44 47
WINSTON-SALEM 27103
DUKE 919 723-1686

DAY, JAMES WILLIAM IM AC
2240 CLOVERDALE AVE. 75 76 82
STE. 118, PROFESSIONAL BLDG.
WINSTON-SALEM 27103
U OF TENNESSEE 919 722-7178

DE LUCA, PAMELA S. S
1815 BRANTLEY ST. 89 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-9695

DE-LA-TORRE, ERNESTO ESTEBAN NS AC
3080 TRENWEST DRIVE 52 61 63
WINSTON-SALEM 27103
U OF HABANA 919 765-3750

DEAN, RICHARD HENRY GS AC
300 S. HAWTHORNE RD. 69 68 00
DEPT. OF SURGERY
WINSTON-SALEM 27103
MED COLL OF VA 919 748-4443

DEFRANZO, ANTHONY JOHN PS AC
300 S. HAWTHORNE RD. 73 81 82
WINSTON-SALEM 27103
GEO WASHINGTON U 919 748-4500

DENHAM, JOHN WILLIAM IM /FP AC
3415 THORESBY CT. 66 66 77
WINSTON-SALEM 27104
BOWMAN GRAY 919 773-3783

DEWAN, DAVID MICHAEL AN AC
3333 SILAS CREEK PKWY. 71 71 77
FORSYTH MEM. HOSPITAL
WINSTON-SALEM 27103
BOWMAN GRAY 919 760-5259

DIROCCO, JUDITH GERALYN S
1725-B FRANCISCAN TERR. 90 00 87
WINSTON-SALEM 27107
BOWMAN GRAY 919 788-4844

DIRR, LOUISE YOUNGER N S
532 POLO ROAD 87 00 85
WINSTON-SALEM 27106
BOWMAN GRAY

DOANE, JOHN HORTON, JR. IM /CD AC
250 CHARLOIS BOULEVARD 44 45 77
WINSTON-SALEM 27103
U OF PENN 919 768-4730

DONGRE, SHRIKUMAR SHRIPAD AN AC
1216 BROOK ACRES TRAIL 70 74 78
CLEMMONS 27012
U OF BOMBAY 919 768-5441

DORSETT, FLETCHER I. IM L/RT
2020 HOLLYROOD STREET 41 43 50
WINSTON-SALEM 27107
MED COLL OF VA 919 723-5732

DORSEY, DEANNA LYNN S
312 GROVE PARK AVE. #2 89 00 86
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-3042

DOWNEY, LUCY MCMASTER BIDDLE PD R
2220 QUEENSWOOD DRIVE 84 84 84
WINSTON-SALEM 27106
WEST VA U 919 760-2151

DRESSER, LEE POTTER S
1631-C NORTHWEST BLVD. 87 00 85
WINSTON-SALEM 27104
BOWMAN GRAY 919 722-3712

DUBOW, DAVID ALAN EM /IM S
1957 STONEWOOD DR. 88 00 84
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-2751

DUDLEY, JOSEPH BOYLES PTH AC
3333 SILAS CREEK PARKWAY 57 61 65
WINSTON-SALEM 27103
U OF PENN 919 760-5840

DUNCAN, THANE EDWARD S
821 S. HAWTHORNE ROAD 87 00 84
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4407

DUNSON, MARY E. S
BOX 344, BOWM. GR. MED. SCH. 90 00 86
300 S. HAWTHORNE RD.
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-0527

34. FORSYTH-STOKES-DAVIE COMPONENT SOCIETY (Continued)

EARLY, IRA GORDON IM /CD AC
2240 CLOVERDALE AVE. STE. 192 50 50 56
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-6010

EARNHARDT, JAMES FREDERICK PD AC
3318 HEALY DRIVE 64 64 70
WINSTON-SALEM 27103
U OF NC 919 765-8490

EATON, JEFFREY GRAY S
103 CAROLINA CIRCLE 88 00 86
WINSTON-SALEM 27104
BOWMAN GRAY 919 721-9163

EBERLE, ROBERT ADAM IM AC
2240 CLOVERDALE AVE. STE. 215 82 84 87
WINSTON-SALEM 27103
BOWMAN GRAY 919 725-3591

EDMONDS, JOHN HENRY, JR. CD /IM AC
BOWMAN GRAY SCH. OF MED. 56 56 70
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4208

EDWARDS, JOEL LYNN FP AC
P. O. BOX 666 76 76 80
MOCKSVILLE 27028
BOWMAN GRAY 704 634-6128

EISENACH, JAMES CONRAD AN AC
FORSYTH MEMORIAL HOSP. 82 85 85
OBSTETRIC ANESTHESIA
WINSTON-SALEM 27103
U OF CALIFORNIA 919 760-5295

ELESHA, WILLIAM GS AC
1900 HAWTHORNE RD. #214 45 53 53
WINSTON-SALEM 27103
AMER.U OF BEIRUT 919 765-1610

ELLEDGE, EMMETT SCOTT OTO R
114 DEVONSHIRE DR. 85 86 83
SAN ANTONIO, TX 78209
BOWMAN GRAY

ELLIS, GEORGE JOSEPH, JR. OBG AC
6034 RITTENHOUSE RD. 56 57 82
WINSTON-SALEM 27104
GEO WASHINGTON U 919 765-6172

ENGELSTAD, ANNE CARINE A. S
108 OLD OAK CIRCLE #B2 89 00 85
WINSTON-SALEM 27106
BOWMAN GRAY 919 767-8331

EPSTEIN, SUSAN ELISE S
1815 BRANTLEY ST. 89 00 86
WINSTON-SALEM 27104
BOWMAN GRAY

ERNEST, JOSEPH MACDONALD, III OBG AC
BOWMAN GRAY, DEPT. OF OBG 78 78 84
WINSTON-SALEM 27103
U OF MISSISSIPPI 919 748-4291

EYERMAN, MELVIN FREDERIC PH L/RT
1244 ARBOR ROAD, 444 35 35 62
WINSTON-SALEM 27104
OHIO STATE U 919 723-7420

FAGG, JOHN ANDERSON PS AC
2901 MAPLEWOOD AVENUE 71 71 77
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-8620

FARAHNAKIAN, ALI R AC
PO BOX 104 66 75 86
DANBURY 27016
U OF TEHRAN

FARIS, JOHN CHARLES DR /NM AC
2803 LYNDHURST AVE. 67 67 73
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-1021

FARRELL, FRANK WILSON, JR. DR AC
3155 MAPLEWOOD AVENUE 62 62 77
WINSTON-SALEM 27103
BOWMAN GRAY 919 773-3878

FAYEZ, JAMIL ABDEL-LATIF OBG /END AC
BOWMAN GRAY SCH. OF MEDICINE 64 64 80
WINSTON-SALEM 27103
DOW MED COLLEGE 919 748-2368

FEIN, DOUGLAS A. S
300 S. HAWTHORNE RD. 89 00 86
BOX 484, BOWMAN GRAY
WINSTON-SALEM 27103
BOWMAN GRAY 919 724-4478

FELTS, JOHN HARVEY NEP /IM AC
BOWMAN GRAY SCH. OF MED. 49 55 55
WINSTON-SALEM 27103
MED U OF SC 919 748-4259

FERGUSON, WILLIAM CLAY GS /TS AC
2680 REYNOLDS DRIVE 60 60 69
WINSTON-SALEM 27104
U OF NC 919 765-8020

FERNANDEZ, ISABEL M. S
1900 QUEEN ST. APT. C-1 88 00 86
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-3463

FERRARI, CAROLYN JEAN S
2920 NORTHBRIDGE 90 00 86
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-5288

FERREE, CAROLYN RUTH BLACK TR AC
300 S. HAWTHORNE RD. 70 71 76
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4981

FINA, MICHAEL FRANCIS GE /IM AC
1901 S. HAWTHORNE RD., #310 75 76 81
WINSTON-SALEM 27103
NEW YORK MED COL 919 760-4340

FINKLEA, LEE KILPATRICK PD AC
250 CHARLOIS BLVD. 79 79 85
WINSTON-SALEM 27103
MED U OF SC 919 768-4730

FINN, RICHARD CONNELL OBG AC
250 CHARLOIS BOULEVARD 63 63 76
WINSTON-SALEM 27103
TULANE U 919 768-4730

FINN, WILLIAM FRANCIS, JR. EM R
854 BRENT ST. 85 85 85
WINSTON-SALEM 27103
EAST CAROLINA U 919 760-2462

FISHER, WILLIAM SLOAN, III OTO AC
175 CHARLOIS BLVD. STE. 101 74 74 78
WINSTON-SALEM 27103
DUKE 919 768-3361

FLETCHER, ROBERT GEORGE OM /FP AC
401 N. MAIN STREET 63 63 83
WINSTON-SALEM 27102
OHIO STATE U 919 777-2024

FLORES, RODOLFO FLORES FP /IM AC
P. O. BOX 96 62 74 74
DANBURY 27016
MANILA U 919 593-8281

FLOWE, KENNETH MICHAEL S
1608-H NORTHWEST BLVD. 87 00 84
WINSTON-SALEM 27104
BOWMAN GRAY 919 761-1246

FLOYD, HERBERT MYNATT AN AC
3551 BUENA VISTA ROAD 71 72 76
WINSTON-SALEM 27106
BOWMAN GRAY 919 748-8611

FOLDS, WILLIAM FRANKLIN FP AC
5043 COUNTRY CLUB ROAD 62 62 64
WINSTON-SALEM 27104
BOWMAN GRAY 919 768-9275

FONTRIER, TOINETTE HELEN AN AC
8220 WHITE WATER DR. 78 83 85
CLEMMONS 27012
ALBANY MED COLL 919 766-4321

FORD, ROBERT VIRGIL, JR. PD AC
3175 MAPLEWOOD AVENUE 71 71 74
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-7030

FORMANEK, AUGUSTIN GUSTAV DR /PD AC
BERMUDA RUN, BOX 617 47 47 81
103 HELLERI COURT
ADVANCE 27006
KOMENSKY U 919 998-5333

FORSYTH, H. FRANCIS ORS L/RT
2865 BARTRAM ROAD 40 41 46
WINSTON-SALEM 27106
U OF MICHIGAN 919 724-1334

FOSTER, BOB MAXWELL FP AC
P. O. BOX 427 57 57 60
MOCKSVILLE 27028
BOWMAN GRAY 704 634-2108

FOUSHEE, J. HENRY SMITH, JR. PTH AC
718 FORSYTH MEDICAL PARK 47 47 55
WINSTON-SALEM 27103
JEFFERSON 919 768-2351

FOWLER, HENRY JACKSON GP A
P. O. BOX 38 46 47
WALNUT COVE 27052
BOWMAN GRAY 919 591-43

FRANCIS, KENNETH ROBERT
1400 CLIFF ST. #F 87 00 8
WINSTON-SALEM 27107
BOWMAN GRAY 919 723-38

FRIEDFELD, STEFANIE ANN
103 PERSHING AVE. 87 00 8
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-98

FROMSON, GERALD ALAN IM A
250 CHARLOIS BOULEVARD 77 80
WINSTON-SALEM 27103
U OF NC 919 768-47

FUNDERBURK, AMON LEX IM /END A
3080 TRENWEST DR. 66 66
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-23

GABY, NANCY SUE P A
622 S. SUNSET DR. 78 80 8
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-45

GADDY, JOE ELLIS, JR. CD /IM A
2810 MAPLEWOOD AVENUE 71 71 7
WINSTON-SALEM 27104
U OF NC 919 768-04

GALLANIS, CRAIG T.
1333 MADISON AVE. 89 00 8
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-68

GALLUP, KENNETH RAYNOR, JR. PUD /IM A
2825 LYNDHURST AVE., STE. 101 73 73 7
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-08

GARLAND, WESLEY SCOTT OM A
R. J. REYNOLDS, MEDICAL DEPT. 55 60 6
WINSTON-SALEM 27102
BOSTON U 919 777-202

GARRETT, JOHN BOSTIAN, SR. FP A
2926 MAIN ST. 51 51 5
PO BOX 220
WALKERTOWN 27051
BOWMAN GRAY 919 595-275

GELFAND, DAVID WILLIAM R A
853 BUTTONWOOD DRIVE 62 63 7
WINSTON-SALEM 27104
YALE 919 748-248

GIBSON, ROBERT WYLIE P /N A
190 CHARLOIS BOULEVARD 68 68 7
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-693

GILLIAM, JOHN HUGH, III GE /IM A
300 S. HAWTHORNE ROAD 70 70 8
BOWMAN GRAY SCH. OF MED
WINSTON-SALEM 27103
MED COLL OF VA 919 748-460

GIVENS, DAVIDSON HOWARD CD /IM A
1399 WESTGATE CENTER DR. 76 76 8
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-426

GLASS, FREDERICK WILLIAM EM /GS A
BOWMAN GRAY SCH. OF MED. 50 50 7
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-462

GLATZ, FRANK ROBERT, JR. OTO A
3303 HEALY DR., STE. A 73 73 7
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-486

GLEN, DULANEY IM A
250 CHARLOIS BOULEVARD 67 68 8
WINSTON-SALEM 27103
COLUMBIA U 919 768-473

GLOD, ALBERT PAUL GS /TS L/RT
152 MUIRFIELD DR. 43 44 54
WINSTON-SALEM 27104
BOWMAN GRAY 919 725-3702

GOCO, ISAIAS ISMAEL GS /CDS A
1901 S.HAWTHORNE RD.,STE.220 56 62 63
WINSTON-SALEM 27103
U OF SANTO TOMAS 919 768-4710

34. FORSYTH-STOKES-DAVIE COMPONENT SOCIETY (Continued)

)ODE, DAVID JOHN P AC
BOWMAN GRAY, DEPT. OF PSY. 66 66 78
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4142

)RDON, JOSEPH GROVER R RT
BOWMAN GRAY SCH. OF MED. 48 55 57
WINSTON-SALEM 27103
MEHARRY MED COLL 919 748-4316

)TTLIEB, LOUIS NATHAN OPH AC
631 COLISEUM DRIVE 62 62 69
WINSTON-SALEM 27106
BOWMAN GRAY 919 723-1041

)WER, DAVID JOHN NS R
N. C. BAPTIST HOSPITAL 81 82 84
WINSTON-SALEM 27103
U OF FLORIDA 919 748-4038

)WER, VERLIA COLE S
918 MADISON AVENUE 88 00 84
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-8602

RANT, WILLIS JACKSON, III P AC
250 CHARLOIS BLVD. 54 54 63
WINSTON-SALEM 27103
U OF NC 919 768-4730

RAVES, JOHN W. NEP /IM AC
300 S. HAWTHORNE RD. 77 78 86
WINSTON-SALEM 27103
U OF NEBRASKA 919 748-4593

RAVLEE, GLENN PAGE AN AC
1205 CLOVER STREET 74 77 80
WINSTON-SALEM 27101
NORTHWESTERN U 919 748-4498

REEN, HAROLD D. CD L/RT
3619 DEWSBURY ROAD 31 31 45
WINSTON-SALEM 27104
CASE WESTERN RES 919 765-5078

REEN, ROBERT LORENZA R AC
3155 MAPLEWOOD AVENUE 59 59 66
WINSTON-SALEM 27103
U OF NC 919 773-3873

REGG, CHARLES ELI AN AC
108 BALLY HO DR. 74 74 79
LEWISVILLE 27023
BOWMAN GRAY 919 748-4791

REISS, FRANK CHRISTIAN, JR. OBG AC
BOWMAN GRAY SCH. OF MED. 53 54 60
WINSTON-SALEM 27103
U OF PENN 919 748-4039

REVIOUS, STEPHEN SCOTT S
1641-P NORTHWEST BLVD. 88 00 85
WINSTON-SALEM 27104
BOWMAN GRAY 919 724-4541

RIFFITH, MARY IRENE GYN L/RT
515 S. HAWTHORNE RD. 42 42 46
WINSTON-SALEM 27103
U OF TENNESSEE 919 724-7321

RISTINA, ANTHONY GEORGE ORS AC
300 S. HAWTHORNE RD. 56 56 72
WINSTON-SALEM 27103
ALBANY MED COLL 919 748-3952

ULLEY, MARCUS MARCELLUS P AC
DEPARTMENT OF PSYCHIATRY 51 55 56
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4554

UNN, CHARLES GROSHON, JR. OM /IM AC
SARA LEE CORPORATION 48 52 57
WINSTON HEADQUARTERS,BOX 2760
WINSTON-SALEM 27102
DUKE 919 744-3708

USDON, JOHN PAUL, JR. OBG AC
3240 NOTTINGHAM ROAD 59 67 68
WINSTON-SALEM 27104
U OF VIRGINIA 919 748-4039

UY, CLIFFORD RICHARD CD /IM AC
250 CHARLOIS BOULEVARD 67 68 83
WINSTON-SALEM 27103
MED SCH-UMDNJ 919 768-4730

WYN, PAUL PERKINS, JR. PS /GS AC
2901 MAPLEWOOD AVENUE 61 61 70
WINSTON-SALEM 27103
COLUMBIA U 919 765-8620

ABERKERN, ROY CONRAD CHP AC
300 S. HAWTHORNE RD. 69 69 74
WINSTON-SALEM 27103
DUKE 919 748-4220

HACKLANDER, SHELLEY W. S
PO BOX 427 90 00 86
MARS HILL 28754
BOWMAN GRAY 704 689-4238

HADDAD, MICHEL GEORGE S
300 S. HAWTHORNE RD. BOX 487 89 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-7442

HAISTY, WESLEY KENNETH, JR. CD /IM AC
300 S. HAWTHORNE ROAD 66 67 78
WINSTON-SALEM 27103
NORTHWESTERN U 919 748-4673

HALL, JOHN HOWLAND, JR. S
300 S. HAWTHORNE RD. BOX 122 88 00 84
WINSTON-SALEM 27103
BOWMAN GRAY 919 724-4639

HAMILTON, GEORGE EDWARD, JR. P AC
908 ARBOR ROAD 65 66 76
WINSTON-SALEM 27104
BOSTON U 919 725-7777

HAMILTON, ROBERT WILLIAM NEP /IM AC
BOWMAN GRAY SCH. OF MED. 63 65 75
WINSTON-SALEM 27103
ST U OF NY-BUFF 919 748-4304

HAMPTON, JAMES HARRIS, JR. FP AC
P. O. BOX 325 52 52 58
LEWISVILLE 27023
BOWMAN GRAY 919 945-5846

HANNA, LINDA J. GS R
PO BOX 526 85 00 83
BLOWING ROCK 28605
BOWMAN GRAY

HARBOURNE, KEVIN S. S
1641 NORTHWEST BLVD., APT. D 89 00 85
WINSTON-SALEM 27104
BOWMAN GRAY 919 724-7390

HARDIE, GREGORY STEVEN AN AC
408 FORSYTH MEDICAL PK 80 81 77
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-7680

HARPER, MARGARET A. OBG AC
300 S. HAWTHORNE RD. 74 74 87
WINSTON-SALEM 27103
U OF NC 919 748-4595

HARR, CHARLES DULANEY GS R
719 WESTVIEW DRIVE 83 83 83
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-2011

HARRINGTON, LEE, JR. OM /IM L/RT
2340 OLIVET CHURCH ROAD 44 49 52
WINSTON-SALEM 27106
TEMPLE U 919 924-4179

HARRIS, JIMMIE LEE GP AC
270 FORSYTH MEDICAL PARK 54 64 65
WINSTON-SALEM 27103
MED COLL OF VA 919 768-5260

HARRIS, MILTON DEAN CD /IM AC
2810 MAPLEWOOD AVENUE 68 69 76
WINSTON SALEM 27103
U OF TEXAS-SW 919 768-0437

HARRISON, LLOYD HERRITAGE U AC
300 S. HAWTHORNE RD. 62 62 73
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4131

HARROLD, LAURIE J. S
324 CRAFTON ST. 90 00 86
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-5882

HART, OLIVER JAMES, JR. U AC
1806 S. HAWTHORNE ROAD 59 59 64
WINSTON-SALEM 27103
U OF NC 919 768-0735

HART, OLIVER JAMES, SR. U L/RT
1930 GEORGIA AVENUE 25 30 32
WINSTON-SALEM 27104
MED U OF SC 919 722-6598

HARTNESS, ALBERT R. FP AC
P. O. BOX 427 61 61 65
MOCKSVILLE 27028
BOWMAN GRAY 704 634-2108

HASHEMI, ZIAOLLAH S
1439-L HUTTON ST. 89 00 85
WINSTON-SALEM 27103
BOWMAN GRAY

HATJIS, CHRISTOS GEORGE OBG /NPM AC
300 S. HAWTHORNE RD. 75 76 82
WINSTON-SALEM 27103
U OF PENN 919 748-4291

HAYES, JOHN TERRENCE ORS AC
301 MILLER STREET, SUITE 201 51 66 66
WINSTON-SALEM 27103
U OF MICHIGAN 919 723-2418

HAZZARD, WM. RUSSELL IM AC
300 S. HAWTHORNE RD. 62 63 87
DEPT. OF MEDICINE
WINSTON-SALEM 27103
CORNELL U 919 748-4305

HEADLEY, ROBERT NELSON CD /IM AC
300 S. HAWTHORNE RD. 56 57 63
WINSTON-SALEM 27103
U OF MARYLAND 919 748-4331

HEALY, PATRICK K. IM AC
250 CHARLOIS BLVD. 80 81 84
WINSTON-SALEM 27103
GEORGETOWN U 919 768-4730

HEBERT, STEPHEN WILLIAM P /N AC
1365 WESTGATE CENTER DR. 72 72 79
SUITE N-1
WINSTON-SALEM 27103
BOWMAN GRAY 919 760-3220

HEDRICK, RICHARD ELI GS L/RT
1999 GEORGIA AVE. 43 43 47
WINSTON-SALEM 27104
MED U OF SC 919 724-5454

HEDRICK, RICHARD ELI, JR. OBG AC
1806 S. HAWTHORNE RD. #102 79 80 84
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-3632

HELMS, JEFFERSON BIVENS, JR. IM /CD AC
1405 PLAZA DRIVE 62 62 68
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-4131

HELSABECK, BELMONT AUGUSTUS OPH L
631 COLISEUM DRIVE 31 31 36
WINSTON-SALEM 27106
MED COLL OF VA 919 723-1041

HENNESSY, JOHN FRANCIS END /IM AC
300 S. HAWTHORNE RD. 67 67 82
WINSTON-SALEM 27103
U OF KANSAS 919 748-2076

HENRICHS, W. DEAN D /DMP AC
250 CHARLOIS BLVD. 65 66 84
WINSTON-SALEM 27103
U OF KANSAS 919 768-6221

HERRERA, MARCOS A. R AC
300 S. HAWTHORNE RD. 74 75 87
WINSTON-SALEM 27103
NAT U OF MEXICO 919 748-2491

HEYMANN, ROBERT CURTIS D AC
118 FORSYTH MEDICAL PARK 60 61 65
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-1841

HIATT, JOHN DONALD, JR. DR R
1304 FENIMORE STREET 83 83 80
WINSTON-SALEM 27103
BOWMAN GRAY 919 725-6584

HIGHTOWER, FELDA GS /TS L/RT
2445 REYNOLDS DRIVE 33 33 36
WINSTON-SALEM 27104
U OF PENN 919 727-1661

HINES, MICHAEL HERBERT R
723 FENIMORE ST. 86 86 84
WINSTON-SALEM 27103
BOWMAN GRAY 919 777-0226

HINMAN, ALANSON PD L/RT
792 ROSLYN RD. 46 47 52
WINSTON-SALEM 27104
JOHNS HOPKINS 919 723-0458

HINSON, JONATHAN C. S
2841 TULLY SQUARE #F 90 00 86
2700 REYNOLDA RD.
WINSTON-SALEM 27106
BOWMAN GRAY 919 723-7554

HOFFMAN, MARY JACQUELINE S
537 S. HAWTHORNE RD. #12 88 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 761-8294

34. FORSYTH-STOKES-DAVIE COMPONENT SOCIETY (Continued)

HOLLAND, JAMES P. CD AC
2810 MAPLEWOOD AVE. 80 82 87
WINSTON-SALEM 27103
U OF NC 919 768-0437

HOLLEMAN, IVAN LACY, JR. PTH AC
BOWMAN GRAY, DEPT. OF PATH. 53 53 78
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4311

HOLMES, GEORGE WASHINGTON ORS L/RT
4235 STONEHENGE LN. 31 31 33
WINSTON-SALEM 27106
MED COLL OF VA 919 722-6939

HOLTHUSEN, GREGORY GRANT ORS AC
SALEM ORTHOPAEDIC ASSOC. PA 65 65 73
PO BOX 25007
WINSTON-SALEM 27114
U OF WISCONSIN 919 768-1270

HOMER, STEPHEN HUBERT ORS AC
3111 MAPLEWOOD AVE.,STE.104 61 67 67
WINSTON-SALEM 27103
U OF PENN 919 768-4110

HOMESLEY, HOWARD DAVID GYN /ON AC
DEPT. OF OBG, BOWMAN GRAY 67 67 75
WINSTON-SALEM 27103
U OF NC 919 748-4022

HOOTS, ELEANOR CARSWELL S
221 LOCKLAND AVE. 88 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-1325

HOPKINS, LAWRENCE DAVID OBG AC
5105 RIVER CHASE RIDGE 77 78 84
WINSTON-SALEM 27104
BOWMAN GRAY 919 722-9590

HOPKINS, MARBRY BENJAMIN, III PTH AC
300 S. HAWTHORNE RD. 77 81 83
WINSTON-SALEM 27103
U OF VIRGINIA 919 748-2624

HOUGH, WILLIAM AMOS, III IM AC
410 AVALON ROAD 73 73 76
WINSTON-SALEM 27104
BOWMAN GRAY 919 768-4730

HOWELL, CHARLES MAITLAND, JR. D L
340 PERSHING AVENUE 37 37 46
WINSTON-SALEM 27103
U OF PENN 919 725-8422

HOWELL, FREDERICK LAWRENCE U AC
2932 LYNDHURST AVENUE 68 68 77
WINSTON-SALEM 27103
U OF VIRGINIA 919 765-4021

HOWELL, JULIUS PS /OTO L
1900 S. HAWTHORNE RD. STE. 480 43 43 52
WINSTON-SALEM 27103
U OF PENN 919 760-1727

HOYLE, DAVID EMORY S
5331 YARDLEY TERRACE 89 00 86
DURHAM 27707
U OF NC 919 493-9279

HUBBARD, STEPHEN ADRIAN IM /EM S
2930 CLUB PARK ROAD 88 00 85
WINSTON-SALEM 27104
BOWMAN GRAY 919 760-1226

HUDSPETH, ALLEN SHERRILL CDS /TS AC
300 S. HAWTHORNE RD. 53 53 63
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4359

HUFFMAN, JOHN MITCHEL, JR. S
300 S. HAWTHORNE ROAD 89 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-9378

HUGHES, DOREEN L. S
2047 CRAIG ST. APT. B 90 00 86
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-5423

HUGHES, THOMAS PATRICK GE AC
1901 S. HAWTHORNE RD. #310 79 79 85
WINSTON-SALEM 27103
TULANE U 919 725-8326

HUNT, THOMAS HOLMES DR /NR AC
3155 MAPLEWOOD AVENUE 71 71 77
WINSTON-SALEM 27103
BOWMAN GRAY 919 760-5874

HUNTER, BILLY RAY P AC
1328 ASHLEY SQUARE 76 82 84
WINSTON-SALEM 27103
U OF NC 919 765-5092

HUNTER, DAVID MONTGOMERY S
1615 NORTHWEST BLVD. 87 00 85
WINSTON-SALEM 27104
BOWMAN GRAY 919 724-9568

HURST, DANIEL JOHNSON PUD /IM AC
250 CHARLOIS BLVD. 67 69 84
WINSTON-SALEM 27103
U OF CHICAGO 919 768-4730

IBRAHIM, MOUNIR LABIB P /HYP AC
2900-A MAPLEWOOD AVE. 72 80 80
WINSTON-SALEM 27103
CAIRO U 919 768-2886

IFFT, ROBIN DAWN S
731 LYNN DEE DR. 88 00 85
WINSTON-SALEM 27106
BOWMAN GRAY 919 725-3578

IRELAND, PATRICK DAVID S
315 LOCKLAND AVE. 89 00
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-2935

ISRAEL, JAMES RAY P /FP AC
1365 WESTGATE CENTER DR. 63 63 66
SUITE N-1
WINSTON-SALEM 27103
BOWMAN GRAY 919 760-3220

JACKSON, DAVID STONE, JR. FP AC
300 S. HAWTHORNE ROAD 73 73 80
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-2832

JACKSON, DON VERNON, JR. IM /ON AC
300 S. HAWTHORNE ROAD 72 72 80
WINSTON-SALEM 27103
U OF VIRGINIA 919 748-2088

JACOBSON, MARK DAVID S
3924 OLD VINEYARD RD., #55 88 00 85
WINSTON-SALEM 27104
BOWMAN GRAY 919 760-3389

JAMES, FRANCIS MARSHALL,III AN AC
15 GRAYLYN PLACE LANE 61 62 76
WINSTON-SALEM 27106
HAHNEMANN 919 723-4690

JAMES, GEORGE W. D L
205 S. HAWTHORNE ROAD 40 40 49
WINSTON-SALEM 27103
U OF TENNESSEE 919 722-6155

JAMES, GEORGE WHITFIELD S
1900 QUEEN ST. #C-3 87 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-5918

JANEWAY, RICHARD N AC
300 S. HAWTHORNE RD. 58 63 68
WINSTON-SALEM 27103
U OF PENN 919 748-4424

JARRAHI, ALI P /PH AC
2830 MAPLEWOOD AVENUE 62 62 73
WINSTON-SALEM 27103
U OF TEHRAN 919 768-2424

JENNINGS, ANGELA L. S
1725-B FRANCISCAN TERR. 90 00 87
WINSTON-SALEM 27107
BOWMAN GRAY 919 788-4844

JERARD, D'SOUZA V. AC
300 S. HAWTHORNE RD. 71 74 87
WINSTON-SALEM 27103
BANGALORE MED CO 919 748-4435

JOBSON, VERNON WAKEFIELD GYN /ON AC
1901 S. HAWTHORNE RD. STE. 360 73 77 80
WINSTON-SALEM 27103
U OF KANSAS 919 765-1464

JOHNSON, ATLEE ROLLINS,III S
2412 JEFFERSON AVE. 87 00 84
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-3171

JOHNSON, HENRY WESLEY PD AC
3175 MAPLEWOOD AVENUE 56 56 59
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-7030

JOHNSTON, FRANK RANDOLPH TS /CDS L/RT
300 S. HAWTHORNE RD. 42 50 50
WINSTON-SALEM 27103
DUKE 919 748-4338

JOHNSTON, WILLIAM ELLIOTT AN AC
300 S. HAWTHORNE RD. 75 79 87
WINSTON-SALEM 27103
DUKE 919 748-3613

JOLLY, BRANTLEY TILMAN, JR. GS
101 HOMESTEAD RD. APT. 804 87 00
CHAPEL HILL 27514
BOWMAN GRAY 919 967-09

JOLLY, THOMAS LYNN FP
1500 W. ACADEMY ST. 85 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 727-05

JONES, CHAMP MCMILLIAN, JR. FP A
2805 LYNDHURST AVE. 74 78
WINSTON-SALEM 27103
MED U OF SC 919 768-88

JONES, JAMES DAVID, II AN A
321 BANBURY ROAD 57 57
WINSTON-SALEM 27104
U OF ALABAMA 919 773-32

JONES, JAMES MARSHALL, JR. IM A
1225 E. FIFTH STREET 54 55
WINSTON-SALEM 27101
MEHARRY MED COLL 919 725-73

JONES, JOSEPH REID, JR. GP A
P. O. BOX 387 51 51
KING 27021
BOWMAN GRAY 919 983-31

JONES, SARA THOMPSON AN A
321 BANBURY ROAD 62 62
WINSTON-SALEM 27104
BOWMAN GRAY 919 768-89

JONES, THADDEUS LEROY PTH /HEM A
3333 SILAS CREEK PARKWAY 67 67
WINSTON-SALEM 27103
U OF VIRGINIA 919 773-38

JORIZZO, JOSEPH L. D A
300 S. HAWTHORNE RD. 75 76
DEPT. OF DERMATOLOGY
WINSTON-SALEM 27103
BOSTON U 919 748-27

JULIAN, JESSE S., JR.
614 BELLVIEW ST. 82 83
WINSTON-SALEM 27103
MED COLL OF VA 919 760-28

KAHL, FREDERIC ROSS CD /IM A
300 S. HAWTHORNE RD. 67 68
WINSTON-SALEM 27103
U OF CHICAGO 919 748-42

KAPORDELIS, GREGORY C. PDS /GS
3319-L CIRCLE BROOK DR. SW 87 00 8
ROANOKE, VA 24014
BOWMAN GRAY 703 774-46

KAYE, DOUGLAS EVAN
1900 QUEEN ST. APT. A3 88 00 8
WINSTON-SALEM 27103
BOWMAN GRAY 919 724-62

KEITH, JULIAN FAISON, JR. FP A
BOWMAN GRAY-FAMILY MED. 53 53
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-22

KEITH, THEODORE ALLEN CD A
2810 MAPLEWOOD AVE. 67 67
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-04

KELLAR, LISA COLLIER
BOWMAN GRAY SCH. OF MED. 88 00 8
STUDENT BOX 100
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-831

KELLEY, TIMOTHY FRANCIS
448 S. HAWTHORNE RD. 89 00 8
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-537

KELLY, DAVID L., JR. NS A
BOWMAN GRAY-NEUROSURGERY 59 59
WINSTON-SALEM 27103
U OF NC 919 748-404

KELLY, JEFFREY EM /AN
406 CLIFFDALE DR. 81 82
WINSTON-SALEM 27104
MED COLL OF OHIO 919 768-82

KELLY, ROBERT GEORGE FP A
2805 LYNDHURST AVENUE 74 75
WINSTON-SALEM 27103
MED U OF SC 919 768-889

34. FORSYTH-STOKES-DAVIE COMPONENT SOCIETY (Continued)

:LLY, WILLIAM SHERWOOD FP AC
116 S. MAIN ST. 81 81 84
KERNERSVILLE 27284
U OF LOUISVILLE 919 993-2224

:NNEDY, CHARLIE LEE PD AC
501 N. CLEVELAND AVE. 63 64 67
WINSTON-SALEM 27101
MEHARRY MED COLL 919 725-0514

:RR, ROBERT MORTON GE /IM AC
BOWMAN GRAY, DEPT. OF MED. 61 66 70
WINSTON-SALEM 27103
CORNELL U 919 748-4602

:Y, STEVEN PAUL S
300 S. HAWTHORNE RD., BOX 374 90 00 86
WINSTON-SALEM 27103
BOWMAN GRAY 919 777-0769

:YES, KENNETH SHOCKLEY OTO /HNS AC
1420 PLAZA DRIVE 66 66 75
WINSTON-SALEM 27103
U OF OREGON 919 765-4922

LBY-SIMPSON, MARTHA ANN S
420 BRIARLEA RD. 88 00 84
WINSTON-SALEM 27104
BOWMAN GRAY 919 768-2403

MBERLY, GEORGE DOUGLAS FP AC
PO BOX 1047 58 58 60
MOCKSVILLE 27028
BOWMAN GRAY 704 634-1124

NG, MICHAEL EUSTERMAN ORS AC
3111 MAPLEWOOD AVE. 77 77 83
WINSTON-SALEM 27103
U OF NC 919 768-4110

NNEY, STEPHEN LEIGH S
130 LIONHEAD COURT 87 00 85
BALTIMORE, MD 21237
BOWMAN GRAY 301 574-1523

.EIN, ALAN DR AC
631 LICHFIELD ROAD 54 77 77
WINSTON-SALEM 27104
U-WITWATERSRAND 919 748-4316

.EIN, ROBERT EDWARD BLB AC
650 COLISEUM DRIVE 51 51 81
WINSTON-SALEM 27106
BOWMAN GRAY 919 725-4346

.EIN, STEVEN RUSSELL IM AC
2933 MAPLEWOOD AVENUE 74 74 79
WINSTON-SALEM 27103
TULANE U 919 765-5250

OHUT, ROBERT IRWIN OTO /HNS AC
300 S. HAWTHORNE RD. 60 61 79
WINSTON-SALEM 27103
U OF CHICAGO 919 748-4161

OMAN, L. ANDREW ORS /HS AC
300 S. HAWTHORNE RD. 74 74 82
WINSTON-SALEM 27103
DUKE 919 748-2878

OOKEN, KEITH ROBERT GS AC
2915 LYNDHURST AVENUE 60 63 67
WINSTON-SALEM 27103
INDIANA U 919 765-5221

OONTZ, THOMAS JEFFREY GS AC
4250 ALLISTAIR ROAD 66 66 74
WINSTON-SALEM 27104
U OF NC 919 765-5221

OSFELD, SCOTT LEE S
420 LOCKLAND AVE. 89 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-9025

OUFMAN, JAMES ALAN LAR /OTO AC
BOWMAN GRAY, DIV. OTO 73 75 79
WINSTON-SALEM 27103
BOSTON U 919 748-4161

OURI, DAVID LAWRENCE S
1935 W. FIRST ST. 89 00 86
WINSTON-SALEM 27104
BOWMAN GRAY 919 723-7169

RAMER, STEPHEN IRWIN P AC
250 CHARLOIS BLVD. 78 79 83
WINSTON-SALEM 27103
JEFFERSON 919 768-4730

ROOVAND, ROY LAWRENCE U /PD AC
300 S. HAWTHORNE RD. 68 68 84
WINSTON-SALEM 27103
U OF CINCINNATI 919 748-4131

KULP, KENNETH ROBERT D AC
1900 S. HAWTHORNE RD. STE. 358 74 74 79
WINSTON-SALEM 27103
U OF NC 919 768-4382

LAMAY, EDWARD NORMAN S
448 HAWTHORNE RD. 88 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-5371

LASTER, DAN WAYNE R AC
300 S. HAWTHORNE RD. 66 66 84
WINSTON-SALEM 27103
U OF TEXAS 919 748-4435

LATZ, TRACY J. T. S
452 CORONA ST. 90 00 86
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-5305

LAWLESS, MICHAEL RHODES PD AC
DEPT. OF PEDIATRICS 68 68 78
BOWMAN GRAY SCH. OF MED.
WINSTON-SALEM 27103
U OF TEXAS 919 727-8108

LEE, BENJAMIN HOWARD S
2050 CRAIG ST. APT. #8 89 00 87
WINSTON-SALEM 27103
BOWMAN GRAY 919 454-3742

LEE, K. STUART NS R
325 JANET ST. 81 83 78
WINSTON-SALEM 27104
EAST CAROLINA U 919 748-2011

LEINBACH, LAURENCE B. DR AC
BOWMAN GRAY SCH. OF MED. 52 52 58
WINSTON-SALEM 27103
HARVARD 919 748-3416

LEMLY-MUNDY, REGINA GAIL IM R
752 PINE LAKE DR. 83 83 80
VIRGINIA BEACH, VA 23462
BOWMAN GRAY 804 474-9113

LENDLE, DONALD LAWRENCE FP AC
147 COLUMBINE DR. 74 75 82
WINSTON-SALEM 27106
U OF CALIFORNIA 919 722-9535

LEONARD, RALPH BEAUMONT EM AC
300 S. HAWTHORNE ROAD 77 78 81
WINSTON-SALEM 27103
MED U OF SC 919 748-4626

LESHIN, BARRY D AC
300 S. HAWTHORNE RD. 81 81 86
DEPT. OF DERMATOLOGY
WINSTON-SALEM 27103
U OF TX-HOUSTON 919 748-2768

LETTIERI, SALVATORE CARMINE S
416 LOCKLAND AVE. 88 00 84
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-1839

LEVIN, STEPHEN WARREN PD AC
116-A S. CHERRY STREET 76 76 87
KERNERSVILLE 27284
U OF TENNESSEE 919 996-3883

LEWIS, ARCH RITCHIE IM /PUD AC
3100 ROUND HILL RD. 65 65 72
GREENSBORO 27408
BOWMAN GRAY 919 379-6961

LIDE, THOMAS NORWOOD PTH L/RT
10 SOVEREIGN DRIVE 38 47 47
HILTON HEAD ISLAND, SC 29928
DUKE 803 681-6815

LIEBSCHER, GREGORY JOHN S
1605 NORTH WEST BLVD. 87 00 86
WINSTON-SALEM 27104
BOWMAN GRAY 919 777-1279

LIMPERT, GEORGE HENRY FP R
1124 FENIMORE ST. 85 85 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-4806

LINK, ARTHUR STANLEY, JR. ID /IM AC
1401-B OLD MILL CIRCLE 72 74 79
WINSTON-SALEM 27103
COLUMBIA U 919 765-8420

LINK, KERRY MICHAEL R
300 S. HAWTHORNE RD.,BOX 265 82 83 85
WINSTON-SALEM 27103
U OF ROCHESTER 919 724-4498

LINS, MARK DAVID S
1641-F NORTHWEST BLVD. 90 00 86
WINSTON-SALEM 27104
BOWMAN GRAY 919 725-8423

LINTON, EUGENE BELL OBG AC
112 BENT ST., BOX 742 51 52 62
BERMUDA RUN 27006
MED COLL OF VA 919 765-9350

LIPSON, ERIC JAMES S
1900 QUEEN ST., APT. A-5 88 00 84
WINSTON-SALEM 27103
BOWMAN GRAY 919 724-9034

LITTLE, HARRY FP AC
158 HOSPITAL ST. 80 80 77
PO BOX 425
MOCKSVILLE 27028
BOWMAN GRAY 704 634-2108

LITTLEJOHN, THOMAS W. OBG /OBS AC
3185 MAPLEWOOD AVENUE 47 48 49
WINSTON-SALEM 27103
U OF TENNESSEE 919 768-0684

LITTLEJOHN, THOMAS WILLARD,III FP AC
2805 LYNDHURST AVENUE 73 73 77
WINSTON-SALEM 27103
U OF NC 919 768-8890

LODGE, JEFFREY SANDS S
1416 GLADE STE. #9 89 00 86
WINSTON-SALEM 27103
BOWMAN GRAY 919 721-9959

LONG, JOHN CLAYTON D AC
1401-C OLD MILL CIRCLE 73 73 77
WINSTON-SALEM 27103
U OF NC 919 765-8121

LORD, RICHARD WILLIAM, JR. S
2506 MILLER PARK CIRCLE 88 00 86
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-7649

LOWE, STEPHEN BECHTLER ORS /HS AC
SALEM ORTHOPAEDIC ASSOC. PA 76 76 77
PO BOX 25007
WINSTON-SALEM 27114
U OF NC 919 768-1270

LYLES, MARY FENNELL IM /GER AC
300 S. HAWTHORNE ROAD 75 75 80
WINSTON-SALEM 27103
U OF MISSISSIPPI 919 748-2051

MACK, RONALD BRIAN PD AC
2516 WOODBERRY DRIVE 54 55 82
WINSTON-SALEM 27106
LOYOLA U 919 727-8108

MACK, YVONNE S
BOX 140, 300 S. HAWTHORNE 88 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-1325

MACLEAN, DAVID BURTON END AC
786 ROSLYN ROAD 73 79 82
WINSTON-SALEM 27104
U OF CALGARY 919 748-2076

MALLOY, H. REMBERT GS L/RT
2020 NEW WALKERTOWN ROAD 39 44 63
WINSTON-SALEM 27101
HOWARD U 919 723-3729

MANDELL, GORDON LEE AN AC
1321 ABINGDON WAY 81 84 86
WINSTON-SALEM 27106
U OF MARYLAND 919 773-3259

MARION, JEREMIAH RICHARD, III OPH AC
631 COLISEUM DR. 73 75 83
WINSTON-SALEM 27106
DUKE 919 723-1041

MARLOWE, DONNA M. S
1208-A W. 4TH ST. 90 00 86
WINSTON-SALEM 27101
BOWMAN GRAY 919 727-1866

MARSHALL, RICHARD BLAIR PTH AC
236 STANAFORD ROAD 55 57 80
WINSTON-SALEM 27104
BOSTON U 919 748-2626

MARTIN, JAMES FRANKLIN R /DR L
2680-3 GROSVENOR PLACE 42 50 51
WINSTON-SALEM 27106
CASE WESTERN RES 919 748-4505

34. FORSYTH-STOKES-DAVIE COMPONENT SOCIETY (Continued)

MARX, RICHARD SAMUEL ID /IM AC
1401-B OLD MILL CIRCLE 74 74 80
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-8420

MATTHEWS, BRIAN LEWIS OTO AC
DEPT. OF OTOLARYNGOLOGY 80 82 86
N. C. BAPTIST HOSPITAL
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4161

MATTHEWS, COY RANDOLPH S
120 EDEN TERRACE #1 88 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-9781

MATTOX, HUITT EVERETT, III IM R
1764 ROBINHOOD RD. 84 85 83
WINSTON-SALEM 27104
EAST CAROLINA U 919 725-3227

MATTOX, JAMES DWIGHT, JR. P AC
1546 OVERBROOK AVENUE 69 69 76
WINSTON-SALEM 27104
BOWMAN GRAY 919 768-6930

MAXWELL, MICHAEL C. S
418 LOCKLAND AVENUE 89 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-8294

MAY, WILLIAM JOSEPH GYN /OBG AC
300 S. HAWTHORNE ROAD 44 44 49
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4595

MAYNARD, CHARLES DOUGLAS NM AC
BOWMAN GRAY, DEPT. OF RAD. 59 59 63
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4575

MCCABE, JAMES MICHAEL P /N AC
2305 CRESTVIEW WAY 75 81 81
WINSTON-SALEM 27103
MED COLL OF VA 919 722-2235

MCCAIN, KENNETH FRANKLIN A AC
223 HARPER STREET 60 60 65
WINSTON-SALEM 27104
U OF NC 919 765-3756

MCCALL, CHARLES EMORY IM /ID AC
300 S. HAWTHORNE RD. 61 61 78
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4584

MCCALL, WILLIAM, JR. A /IM AC
1405 PLAZA DRIVE 49 52 55
WINSTON-SALEM 27103
DUKE 919 765-4131

MCCAULEY, ROGER LEE P AC
190 CHARLOIS BOULEVARD 70 70 76
WINSTON-SALEM 27103
WEST VA U 919 768-6930

MCCONVILLE, JOSEPH FRANCIS AN AC
2257 BRECKNOCK DR. 78 83 86
WINSTON-SALEM 27103
CREIGHTON U 919 765-2259

MCCOOL, JAMES ALVIS PTH AC
3333 SILAS CREEK PARKWAY 64 64 79
WINSTON-SALEM 27103
BOWMAN GRAY 919 760-5840

MCCULLOUGH, DAVID LEGARDE U AC
BOWMAN GRAY, DEPT. OF URO. 64 64 84
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4131

MCCUNNIFF, ANN JONES ON /TR AC
1025 WESSYNGTON RD. 81 83 86
WINSTON-SALEM 27104
MED COLL OF GA 919 748-4981

MCCUNNIFF, DENNIS EDWARD OBG AC
1025 WESSYNGTON ROAD 81 83 86
WINSTON-SALEM 27104
MED COLL OF GA 919 768-6221

MCGUIRT, WILLIAM FREDERICK OTO /ON AC
300 S. HAWTHORNE RD. 68 68 77
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4161

MCINNIS, TERRY ALICE S
300 S. HAWTHORNE RD. BOX 257 87 00 84
WINSTON-SALEM 27103
BOWMAN GRAY 919 760-0935

MCIVOR, ANDREW CRAIG S
646 BRENT ST. 88 00 84
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-4069

MCKINLEY, PHILIP HOWARD OPH AC
3111 MAPLEWOOD AVENUE 72 76 82
WINSTON-SALEM 27103
TULANE U 919 768-3240

MCKINNEY, WILLIAM MARKLEY N /NM AC
BOWMAN GRAY-NEUROLOGY 59 59 70
WINSTON-SALEM 27103
U OF VIRGINIA 919 748-4494

MCLAUGHLIN, JAMES CHARLES OBG AC
250 CHARLOIS BOULEVARD 51 52 77
WINSTON-SALEM 27103
JEFFERSON 919 768-4730

MCLEAN, WILLIAM THADDEUS, JR. N /PD AC
300 S. HAWTHORNE RD. 51 51 67
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-2316

MCNEIL, QUINCY ALBERT, JR. OBG AC
2909 MAPLEWOOD AVENUE 69 69 77
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-2802

MCWHORTER, JOE MAURICE NS AC
300 S. HAWTHORNE RD. 68 68 77
WINSTON-SALEM 27103
U OF MISSISSIPPI 919 748-4020

MEADS, MANSON IM L/RT
300 S. HAWTHORNE RD. 43 47 47
WINSTON-SALEM 27103
TEMPLE U 919 748-4301

MEANS, ROBERT LEE GS AC
PO BOX 5082, ARDMORE STATION 47 48 55
WINSTON-SALEM 27103
BOWMAN GRAY 919 725-1602

MEARS, GREGORY DON EM R
953 KEARNS AVE. 85 00 85
WINSTON-SALEM 27106
MISSOURI U-KC 919 723-7160

MEIS, PAUL JEAN OBG /NPM AC
BOWMAN GRAY,DEPT. OF OBG 59 60 78
WINSTON-SALEM 27103
U OF IOWA 919 748-4039

MEREDITH, JAY WAYNE TRS /TS AC
363 SPRINGDALE AVENUE 78 79 81
WINSTON-SALEM 27104
BOWMAN GRAY 919 748-2011

MEREDITH, JESSE HEDGEPETH GS /TS AC
BOWMAN GRAY-SURGERY 51 61 64
WINSTON-SALEM 27103
CASE WESTERN RES 919 748-4278

MEYER, DAVID DAVIS AC
1800 S. HAWTHORNE ROAD 69 69 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-1860

MEYERS, JAMES HOWARD PTH AC
2540 EMPIRE DR. 72 74 82
WINSTON-SALEM 27103
WASHINGTON U 919 722-9410

MICHELS, RONALD CHARLES IM /END AC
250 CHARLOIS BLVD. 72 72 86
WINSTON-SALEM 27103
WEST VA U 919 768-4730

MILLER, EMERY CLYDE, JR. END /IM AC
300 S. HAWTHORNE RD. 49 53 55
WINSTON-SALEM 27103
JOHNS HOPKINS 919 748-4274

MILLER, HENRY SHELTON, JR. CD /IM AC
300 S. HAWTHORNE RD. 54 54 73
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4467

MILLS, MICHAEL KENNETH OBG AC
3402 DONEGAL DR. 82 82 80
CLEMMONS 27012
BOWMAN GRAY 919 722-6891

MILLS, STEPHEN ALAN CDS /TS AC
3320 PADDINGTON LANE 71 71 81
WINSTON-SALEM 27106
MCGILL U 919 748-4488

MILNER, THOMAS HAMILTON, III DR AC
3155 MAPLEWOOD AVENUE 68 69 75
WINSTON-SALEM 27104
MED COLL OF GA 919 773-3877

MIMS, GROVER RAY, III AN AC
2580 COUNTRY CLUB ROAD 66 66 77
WINSTON-SALEM 27104
BOWMAN GRAY 919 748-4791

MINICK, JAMES ELDER GP A
5029 COUNTRY CLUB ROAD 51 52
WINSTON-SALEM 27104
TEMPLE U 919 768-95

MINICK, RUSSELL CLARK FP A
1504 WILLIAMS RD. 46 46
LEWISVILLE 27023
TEMPLE U 919 768-95

MIRAGLIA, CHARLES CARMEN
1057 S. HAWTHORNE RD. 89 00 8
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-22

MIRAGLIA, COLLEEN P. FP
1057 S. HAWTHORNE RD. 83 84
WINSTON-SALEM 27103
HAHNEMANN 919 723-22

MISHKIND, STEVEN HART
2500-C MILLER PARK CIRCLE 89 00 8
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-04

MONROE, JOHN HOWARD GYN A
2909 MAPLEWOOD AVENUE 47 47 5
WINSTON-SALEM 27103
HARVARD 919 765-28

MONTGOMERY, WILLIAM GARDNER U A
2932 LYNDHURST AVE. 52 52 5
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-40

MOODY, DIXON MCGUIRE DR A
BOWMAN GRAY-RADIOLOGY 63 63 7
WINSTON-SALEM 27103
U OF TEXAS-SW 919 748-44

MOREHEAD, ROBERT PAGE PTH L/R
1051 ARBOR ROAD 36 36 3
WINSTON-SALEM 27104
JEFFERSON 919 722-28

MORGAN, MELVIN KENNETH FP A
5029 COUNTRY CLUB RD. 80 82 8
WINSTON-SALEM 27104
BOWMAN GRAY 919 773-00

MOSTELLAR, HENRY CURTIS, III GS
2229 PARKWAY DR. 83 85 8
WINSTON-SALEM 27103
U OF SOU ALA 919 723-71

MOUNTJOY, JOHN ROBERT OTO A
1420 PLAZA DRIVE 66 67 7
WINSTON-SALEM 27103
GEO WASHINGTON U 919 765-49

MURPHY, BARBARA ANN S
1759 HAWTHORNE ROAD 87 00 8
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-59

MURPHY, MICHAEL D. S
1819 GRACE ST. 90 00 8
WINSTON-SALEM 27103
BOWMAN GRAY 919 724-56

MURPHY, WENDY ELAINE S
1539 1/2 HAWTHORNE RD. 89 00 8
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-19

MURRAY, NIAL PATRICK AN A
780 YORKSHIRE ROAD 54 54 8
WINSTON-SALEM 27106
NAT U OF IRELAND 919 760-52

MUSS, HYMAN BERNARD ON /HEM A
BOWMAN GRAY, DEPT. OF MED. 68 70 7
WINSTON-SALEM 27103
DOWNSTATE ME CTR 919 748-43

MYERS, RICHARD THOMAS GS /TS A
300 S. HAWTHORNE RD. 43 43 5
WINSTON-SALEM 27103
U OF PENN 919 748-45

MYRACLE, JOHN HOBART PD /PDC A
250 CHARLOIS BOULEVARD 74 75 7
WINSTON-SALEM 27103
U OF OKLAHOMA 919 768-47

MYRICK, WILLIAM GLENN IM A
FORSYTH MEDICAL PK, STE. 714 62 62 6
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-30

NANZETTA, LEONARD AN L/R
2756 WINDSOR ROAD 42 46 4
WINSTON-SALEM 27104
U OF MICHIGAN 919 768-75

34. FORSYTH-STOKES-DAVIE COMPONENT SOCIETY (Continued)

APOLITANO, CHARLES A. S
107 ECHO GLEN DR. APT. B4 90 00 86
WINSTON-SALEM 27106
BOWMAN GRAY 919 722-7787

APPER, CLAY HUGHES IM AC
301 MILLER ST., STE. 209 56 56 62
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-0789

ELSON, DAVID STEPHEN EM /GS AC
248 FLINTSHIRE ROAD 61 61 73
WINSTON-SALEM 27104
BOWMAN GRAY 919 765-3950

ELSON, LEWIS HENRY, III OBG /GYN AC
BOWMAN GRAY, DEPT. OF OBG 70 70 79
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4291

EWSOME, ALBERT RAY CD AC
1405 PLAZA DRIVE 61 61 67
WINSTON-SALEM 27103
U OF NC 919 765-4131

EWSOME, SAMUEL CARL FP AC
P. O. BOX 1129 75 75 73
KING 27021
BOWMAN GRAY 919 983-4346

EWTON, JIMMIE ISAAC OBG AC
3030 TRENWEST DRIVE 64 64 78
WINSTON-SALEM 27103
U OF NC 919 768-4310

CASTRO, JOSEPH FRANCIS ORS AC
4159 GREENMEAD ROAD 69 73 77
WINSTON-SALEM 27106
M C OF WISCONSIN 919 748-3947

FONG, FRANK MILLER FP L
P. O. BOX 988 43 43 48
CLEMMONS 27012
JEFFERSON 919 766-6811

OLAN, ROBERT EARL GS /VS AC
1901 S. HAWTHORNE, STE. 210 55 60 60
WINSTON-SALEM 27103
CASE WESTERN RES 919 765-5101

OMEIR, ABDEL-MOHSEN CD /IM AC
3219 PENSBY ROAD 52 72 78
WINSTON-SALEM 27106
ALEXANDRIA U 919 748-4581

ORFLEET, CHARLES MILLNER, JR. U L/RT
1244 ARBOR ROAD, #199 37 37 41
WINSTON-SALEM 27104
U OF PENN 919 722-1464

CONNOR, MICHAEL LEE PTH AC
BOWMAN GRAY, DEPT. OF PATH. 64 65 76
WINSTON-SALEM 27103
U OF KANSAS 919 748-4311

NEAL, RUTH PD L
BOWMAN GRAY, DEPT. OF PED. 43 45 48
WINSTON-SALEM 27103
MED COLL OF VA 919 727-8105

BER, KARL PATRICK END /IM AC
300 S. HAWTHORNE RD. 74 76 82
WINSTON-SALEM 27103
U OF FLORIDA 919 748-2076

GBURN, LUNDIE CALVIN GYN L
312 FORSYTH MEDICAL PARK 28 28 36
WINSTON-SALEM 27103
JEFFERSON 919 765-9150

LKOWSKI, STEVEN THOMAS OPH R
1160 EDENWOOD DRIVE 81 84 84
WINSTON-SALEM 27103
GEORGETOWN U 919 760-2157

LSEN, JEFFREY DOVE S
2451 BOONE AVE. 89 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 725-9812

LYMPIO, GEORGIA K. PTH R
526 OSBORNE RD. 82 84 85
WINSTON-SALEM 27103
U OF FLORIDA 919 768-5217

LYMPIO, MICHAEL A. AN AC
526 OSBORNE RD. 82 84 85
WINSTON-SALEM 27103
U OF FLORIDA 919 768-5217

RBOCK, JACOB ALEXANDER IM /CD AC
250 CHARLOIS BOULEVARD 62 65 79
WINSTON-SALEM 27103
JEFFERSON 919 768-4730

ORCUTT, JAMES MICHAEL S
1327 REVERE RD. 90 00 86
WINSTON-SALEM 27103
BOWMAN GRAY 919 725-8866

OTT, DAVID JAMES DR AC
4761 GREY FOX COURT 71 72 78
WINSTON-SALEM 27104
U OF MICHIGAN 919 765-7633

PARKER, PETER EMENS GS /VS AC
2933 MAPLEWOOD AVENUE 60 60 71
WINSTON-SALEM 27103
OHIO STATE U 919 765-0155

PARKER, ROBERT L., JR. OBG AC
822 S. CHERRY ST. 82 83 86
KERNERSVILLE 27284
BOWMAN GRAY 919 993-4532

PARRIS, ALVA EDWARD FP /OM AC
2240 CLOVERDALE AVE., STE. 219 53 53 54
WINSTON-SALEM 27103
BOWMAN GRAY 919 725-5881

PARSLEY, BETSY ALLEN PD AC
3420 THORESBY COURT 69 69 73
WINSTON-SALEM 27104
BOWMAN GRAY 919 768-6830

PASCHOLD, EUGENE H. ON /IM AC
3314 HEALY DR. STE. 107 78 79 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-2521

PATTERSON, RICHARD BRUCE PHO /PD AC
300 S. HAWTHORNE RD. 55 55 61
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4085

PAUCA, ALFREDO LAZO AN AC
300 S. HAWTHORNE RD. 58 58 77
WINSTON-SALEM 27103
SAN MARCOS U 919 748-4473

PAYNE, JEFFREY C. S
315 S. SUNSET DR. APT. 2 90 00 86
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-1491

PEACOCK, JAMES EDWARD, JR. ID /IM AC
300 S. HAWTHORNE RD. 75 76 83
WINSTON-SALEM 27103
U OF NC 919 748-4507

PEARCE, LARRY ALLEN N AC
300 S. HAWTHORNE RD. 61 61 72
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4101

PEARSON, WILLIAM SEYMOUR P AC
BOWMAN GRAY SCH. OF MED. 60 60 66
300 S. HAWTHORNE RD
WINSTON-SALEM 27103
U OF NC 919 748-4553

PEGRAM, PAUL SAMUEL, JR ID /IM AC
2332 ELIZABETH AVENUE 70 70 80
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4246

PENCE, CARLA RAFFETY IM R
1900 QUEEN ST. A-4 85 00 83
WINSTON-SALEM 27103
BOWMAN GRAY 919 725-7499

PENKAR, SURESH JAGANNATH AN AC
3333 SILAS CREEK PARKWAY 70 71 76
WINSTON-SALEM 27103
U OF BOMBAY 919 773-3180

PENNELL, TIMOTHY CLINARD GS /TS AC
BOWMAN GRAY - SURGERY 60 60 72
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4671

PEPPER, FRANCIS DEWITT, JR. R /NM AC
3155 MAPLEWOOD AVENUE 56 56 64
WINSTON-SALEM 27103
U OF NC 919 765-2702

PERRY, DAVID RUSSELL, JR. PD AC
3175 MAPLEWOOD AVENUE 46 47 53
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-7030

PERRY, IRVIN SAMUEL PUD /IM AC
2825 LYNDHURST AVENUE 55 55 76
WINSTON-SALEM 27103
MED COLL OF VA 919 765-0383

PERRY, SAMUEL JOSEPH S
1723 VIRGINIA RD. 1/2 88 00 85
WINSTON-SALEM 27104
BOWMAN GRAY 919 724-7601

PETRILLI, ROBERT EM AC
5465 STYERS FERRY RD. 82 83 84
CLEMMONS 27012
U OF SOU FLORIDA 919 766-0479

PETROZZA, PATRICIA HARPER AN AC
300 S. HAWTHORNE RD. 78 80 84
WINSTON-SALEM 27103
JEFFERSON 919 748-4498

PHAN, THAI TIEN P AC
300 S. HAWTHORNE RD. 72 72 83
WINSTON-SALEM 27103
U OF HUE 919 748-3920

PHILLIPPI, PAUL JASPER IM AC
261 STAFFORDSHIRE ROAD 56 57 78
WINSTON-SALEM 27104
U OF TENNESSEE 919 768-9401

PHILLIPS, ERNEST PAUL, JR. CD AC
1405 PLAZA DRIVE 78 79 85
WINSTON-SALEM 27103
U OF FLORIDA 919 765-4131

PHILLIPS, WESLEY FLETCHER FP AC
P. O. BOX 727 62 62 67
KERNERSVILLE 27284
BOWMAN GRAY 919 993-8181

PHIPPS, CARL SPENCER END /IM AC
3333 SILAS CREEK PARKWAY 62 62 66
WINSTON-SALEM 27103
U OF NC 919 765-1640

PIKULA, LOUIS, JR. NS AC
3080 TRENWEST DRIVE 61 61 70
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-3750

PITSER, WILLIAM ROSS OTO AC
1420 PLAZA DRIVE 62 62 70
WINSTON SALEM N C 27103
U OF NC 919 765-4922

PITTAWAY, DONALD EDWARD OBG AC
578 MAIDSTONE LANE 77 77 84
CLEMMONS 27012
LSU-SHREVEPORT 919 748-2368

PLONK, GEORGE WEBB, JR. GS /VS AC
BOWMAN GRAY - SURGERY 73 74 81
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4449

PODGORNY, GEORGE EM /GS AC
2115 GEORGIA AVENUE 62 69 73
WINSTON-SALEM 27104
BOWMAN GRAY 919 727-1161

POEHLING, GARY GEORGE ORS /HS AC
BOWMAN GRAY, DEPT. OF ORS 68 76 77
WINSTON-SALEM 27103
M C OF WISCONSIN 919 748-3948

POLLAK, MICHAEL JOSEPH OBG AC
302 FORSYTH MEDICAL PARK 68 68 74
WINSTON-SALEM 27103
MED COLL OF VA

POLLARD, HAROLD CALLOWAY,III OBG AC
2927 LYNDHURST AVE. 73 73 79
WINSTON-SALEM 27103
U OF NC 919 765-9350

POLLOCK, FRANK EDWARD ORS AC
SALEM ORTHOPAEDIC ASSOC. PA 54 57 60
PO BOX 25007
WINSTON-SALEM 27114
OHIO STATE U 919 768-1270

POOL, ROBERT SMITHWICK PTH /CLP AC
FORSYTH MEMORIAL HOSPITAL 55 55 67
WINSTON-SALEM 27103
BOWMAN GRAY 919 773-3840

POPE, JAMES ELLIS CD AC
300 S. HAWTHORNE ROAD 78 79 84
WINSTON-SALEM 27103
EASTERN VA 919 748-4326

PORCHEY, CARL JOSEPH, JR. IM AC
3630 WINDING CREEK WAY 72 74 76
WINSTON-SALEM 27106
WASHINGTON U 919 768-4730

POWELL, BAYARD LOWERY ON /HEM AC
300 S. HAWTHORNE RD. 80 80 78
WINSTON-SALEM 27103
U OF NC 919 748-2946

PRICHARD, ROBERT WILLIAMS PTH AC
300 S. HAWTHORNE RD. 47 51 51
WINSTON-SALEM 27103
GEO WASHINGTON U 919 748-2649

34. FORSYTH-STOKES-DAVIE COMPONENT SOCIETY (Continued)

PROCTOR, RICHARD CULPEPPER P RT
381 WESTVIEW DR., S.W. 45 47 48
WINSTON-SALEM 27104
BOWMAN GRAY 919 723-6020

PRUETT, DENNIS DERWOOD EM AC
1611 W. FIRST STREET 56 57 78
WINSTON-SALEM 27104
BOWMAN GRAY 919 721-1075

PULLIAM, THOMAS JACKSON IM R
2811 FOXWOOD LANE 84 85 81
WINSTON-SALEM 27103
BOWMAN GRAY 919 760-4557

RABEN, MILTON TR AC
N. C. BAPTIST HOSPITAL 59 59 71
WINSTON-SALEM 27103
TUFTS U 919 748-4981

RABIL, WILLIAM EDMOND GS /GYN AC
2240 CLOVERDALE AVE., STE. 218 46 46 52
WINSTON-SALEM 27103
U OF VIRGINIA 919 722-3691

RACKLEY, JAMES WAYNE PD /HEM AC
250 CHARLOIS BLVD. 55 55 77
WINSTON-SALEM 27103
U OF TENNESSEE 919 768-4730

RANDALL, MARCUS EDDIE ON AC
300 S. HAWTHORNE RD. 82 83 82
DIV. RADIATION ONCOLOGY
WINSTON-SALEM 27103
U OF NC 919 748-4981

RANDOLPH, ANGUS CRAWFORD P /N L
300 S. HAWTHORNE RD. 40 48 48
WINSTON-SALEM 27103
U OF VIRGINIA 919 748-4635

RATHMELL, JAMES PHILLIP S
2080 CRAIG STREET 88 00 84
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-7041

RAU, BRUCE WILLIAM P AC
190 CHARLOIS BLVD. 72 74 79
WINSTON-SALEM 27103
U OF MISSOURI 919 768-6930

RAUCK, RICHARD LEE AN AC
2386 FAIRWAY DR. 82 83 87
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-2591

RECORD, S. LEO, JR. FP AC
P. O. BOX 627 64 65 66
KERNERSVILLE 27284
BOWMAN GRAY 919 993-8181

REED, JOHN WILLIAM OPH AC
BOWMAN GRAY, DEPT. OF OPH 62 62 71
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4091

REID, CHARLES FREDRIC U AC
1806 S. HAWTHORNE RD. 74 75 79
PO BOX 5655
WINSTON-SALEM 27103
U OF NC 919 768-0735

REID, CHARLES HAMILTON,JR. IM L/RT
215 PLYMOUTH AVE. 42 45 45
WINSTON-SALEM 27104
DUKE 919 768-0994

REYNOLDS, JOYCE HINSON EM AC
9550 FREEMAN ROAD 52 52 55
KERNERSVILLE 27284
BOWMAN GRAY 919 996-2173

RHOADES, VADE G. D AC
2240 CLOVERDALE AVE., STE. 98 60 60 68
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-1834

RICE, WILLIAM YATES, III S
706 FRIAR TUCK ROAD 89 00 85
WINSTON-SALEM 27104
BOWMAN GRAY 919 768-7293

RICHARDS, FREDERICK, II ON /HEM AC
300 S. HAWTHORNE RD. 64 64 74
WINSTON-SALEM 27103
MED U OF SC 919 748-4337

RICHTER, JOEL EDWARDS GE /IM AC
300 S. HAWTHORNE RD. 75 75 83
WINSTON-SALEM 27103
U OF TEXAS-SW 919 748-2810

RIEKER, ROBERT PAUL AN /PDC AC
510 HEARTHSIDE DR. 66 67 85
WINSTON-SALEM 27104
TUFTS U

RIELA, ANTHONY RICHARD CHN /N AC
211 RIVERBEND DR. 79 81 85
BERMUDA RUN 27006
MED SCH-UMDNJ 919 998-7646

RIESER, GEOFFREY DAVIS R
2833 BIRCHWOOD DR. 85 85 85
WINSTON-SALEM 27103
MED U OF SC 919 760-3090

RIGGAN, JASPER SIMMONS, III S
300 S. HAWTHORNE RD. 89 00 86
STUDENT BOX 537
WINSTON-SALEM 27103
BOWMAN GRAY 919 760-1795

ROARK, GARY LEE S
1106 MELROSE ST. 89 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 761-1590

ROBACZEWSKI, DAVID L. S
261-G DALEWOOD DR. 90 00 87
WINSTON-SALEM 27104
BOWMAN GRAY 919 760-1643

ROBERTS, JESSE EARLE RHU /IM AC
1425 PLAZA DRIVE 61 61 73
WINSTON-SALEM 27103
LA STATE U 919 768-5221

ROBIE, PETER WILLIAM IM AC
300 S. HAWTHORNE RD. 76 76 81
WINSTON-SALEM 27103
BAYLOR 919 748-2085

ROBINSON, JAMES ELBERT ORS AC
FORSYTH MEDICAL PARK, STE. 504 53 58 58
WINSTON-SALEM 27103
NORTHWESTERN U 919 768-9500

ROCAMORA, LEE RUSSELL IM /GE AC
2240 CLOVERDALE AVE., STE. 215 77 77 82
WINSTON-SALEM 27103
U OF NC 919 725-3591

ROGERS, JACK MARRELL P /N AC
BOWMAN GRAY, DEPT. OF PSY. 58 58 64
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-3617

ROGERS, JAMES MICHAEL PD AC
3318 HEALY DRIVE 71 71 78
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-8490

ROMM, FREDRIC JAY FP /GPM AC
BOWMAN GRAY-FAMILY MED. 70 71 84
WINSTON-SALEM 27103
HARVARD 919 748-2229

ROSE, RICHARD PHILLIP ORS AC
FORSYTH MEDICAL PARK, STE. 504 64 64 75
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-9500

ROSEN, ROBERT DEAN FP /EM AC
147 COLUMBINE DRIVE 79 80 83
WINSTON-SALEM 27106
U OF PITTSBURGH 919 722-9535

ROSS, ROBERT MITCHELL AI AC
1365 WESTGATE CENTER DR.#G-1 74 77 81
WINSTON-SALEM 27103
HAHNEMANN 919 768-0914

ROUFAIL, WALTER MICHEL GE /IM AC
1901 S. HAWTHORNE RD., #310 57 66 66
WINSTON-SALEM 27103
CAIRO U 919 760-4340

ROVERE, GEORGE DAVITTO ORS AC
300 S. HAWTHORNE ROAD 58 59 73
WINSTON-SALEM 27103
SYRACUSE 919 748-3946

ROY, RAYMOND CLYDE AN AC
454 WESTOVER AVENUE 74 75 83
WINSTON-SALEM 27104
TULANE U 919 748-4498

RUBIN, MICHAEL HOTELLING GE /IM AC
1830 S. HAWTHORNE ROAD 70 70 78
WINSTON-SALEM 27103
MED COLL OF VA 919 765-0463

RUFFIN, MACK THOMAS, IV FP R
3112 GEORGIA AVE. S. 84 85 86
ST. LOUIS PARK, MN 55426
MED COLL OF VA

RUFTY, ALFRED JACKSON, JR. CD /IM
BOWMAN GRAY, DEPT. OF MED. 61 61
WINSTON-SALEM 27103
LA STATE U 919 748-4

RUSSELL, WILSON GLOVER PTH
FORSYTH MEM HOSP-PTH 74 75
WINSTON-SALEM 27103
VANDERBILT U 919 773-3

RYDEN, JANICE BETH
300 S. HAWTHORNE RD. 89 00
STUDENT BOX 543-BOWMAN GRAY
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-1

SANDERFORD, JAMES LYON, JR. DR /NM
3155 MAPLEWOOD AVENUE 78 78
WINSTON-SALEM 27103
U OF NC 919 773-3

SANFORD, WILLIAM GORDON OM /IM
440 FRIAR TUCK RD. 48 48
WINSTON-SALEM 27104
U OF MARYLAND

SASIN, ILONA BRANDT FP /OM
714 KEIGHTLY COURT 60 77
WINSTON-SALEM 27104
KRAKOW-POLAND 919 784-2

SATO, TAKAO LEWIS IM
6730 AMBERLEY LN. 86 86
CLEMMONS 27012
EAST CAROLINA U 919 766-9

SATTERWHITE, WILLIAM M. OTO /HNS
1420 PLAZA DRIVE 58 58
WINSTON-SALEM 27103
DUKE 919 765-4

SAWYER, CHARLES GLENN CD /IM
300 S. HAWTHORNE RD. 44 44
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-

SAYERS, DANIEL GARVIN EM
2804 MONTCLAIR ROAD 77 77
WINSTON-SALEM 27106
OHIO STATE U 919 748-4

SAYERS, WILLIAM FLOYD PD
3318 HEALY DRIVE 65 65
WINSTON-SALEM 27103
U OF NC 919 765-8

SCHARYJ, MODESTO PTH
BOWMAN GRAY, DEPT. OF PATH. 46 63
WINSTON-SALEM 27103
U OF WIEN 919 748-2

SCHERER, JAMES LEROY R /DR
3155 MAPLEWOOD AVENUE 68 67
WINSTON-SALEM 27103
DUKE 919 773-3

SCHILLER, HERBERT MILES PTH /CLP
2570 EMPIRE DR. 68 68
WINSTON-SALEM 27103
BOWMAN GRAY 919 760-4

SCHKOLNE, BENZION AN
300 BEECHCLIFF COURT 72 78
WINSTON-SALEM 27104
U OF CAPE TOWN 919 765-9

SCHMID, HERMAN ERNEST, JR. FP /GP
147 COLUMBINE DR. 55 56
WINSTON-SALEM 27106
U OF ILLINOIS 919 722-9

SCHROETER, THOMAS ANTHONY
1008 S. HAWTHORNE RD. 87 00
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-3

SCHULTZ, JOHN LOESCH DR /NM
3155 MAPLEWOOD AVENUE 61 61
WINSTON-SALEM 27103
BOWMAN GRAY 919 760-5

SCHWARTZ, EARL EM
3465 DIXIANA LANE 74 75
PFAFFTOWN 27040
BOWMAN GRAY 919 748-4

SCUDERI, PHILLIP EDWARD AN
1728 BUENA VISTA RD. 78 79
WINSTON-SALEM 27104
BOWMAN GRAY 919 773-3

SEARS, VICTOR W., JR.
206 OAKWOOD CT. 90 00
WINSTON-SALEM 27103
BOWMAN GRAY 919 760-1

34. FORSYTH-STOKES-DAVIE COMPONENT SOCIETY (Continued)

AFFNER, LOUIS DES PDS /GS L/RT
30 N. PINE VALLEY ROAD 41 47 51
WINSTON-SALEM 27106
HARVARD 919 725-1503

EALY, RONALD BERNARD OTO AC
75 CHARLOIS BLVD., STE. 101 75 76 81
WINSTON-SALEM 27103
MED U OF SC 919 768-3361

EARIN, JACOB CONNELL, JR PS /GS AC
08 FORSYTH MEDICAL PARK 68 70 79
900 S. HAWTHORNE RD.
WINSTON-SALEM 27103
U OF PENN 919 748-4171

EPARD, CLAUDIA PRICHARD S
406 JARVIS ST. 89 00 85
WINSTON-SALEM 27101
BOWMAN GRAY 919 722-8253

OWN, THOMAS EARL U AC
932 LYNDHURST AVENUE 61 61 71
WINSTON-SALEM 27103
U OF LOUISVILLE 919 765-4021

ON, JIMMY L. PD AC
BOWMAN GRAY, DEPT. OF PED. 55 56 80
WINSTON-SALEM 27103
U OF CALIFORNIA 919 748-4431

PSON, EUGENE MYERS, JR. PD AC
50 CHARLOIS BOULEVARD 73 73 77
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-4730

STEIN, NEIL LELAND GS /CDS
309-B HEALY DR. 70 73 79
WINSTON-SALEM 27103
NEW YORK MED COL 919 768-7500

GER, LAWRENCE ROBERT OBG AC
50 CHARLOIS BOULEVARD 54 55 79
WINSTON-SALEM 27103
NEO WASHINGTON U 919 768-4730

THUSEK, CHIRAPA IM /END AC
200 TARTAN CT. 70 73 78
WINSTON-SALEM 27106
CHIENGMAI U 919 725-4741

ATE, FRANCIS WESLEY GS AC
P. O. BOX 407 47 57 59
MOCKSVILLE 27028
U OF CAPE TOWN 704 634-6121

USHER, M. MADISON OPH AC
00 S. HAWTHORNE RD. 64 65 74
WINSTON-SALEM 27103
U OF KENTUCKY 919 748-4091

ALTO, GARY PAUL S
01 S. SUNSET DR. 88 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 724-9744

ITH, BARBARA ANNE S
07-B S. HAWTHORNE RD. 87 87
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-7041

ITH, CLAUDE ALFRED R AC
155 MAPLEWOOD AVENUE 53 53 66
WINSTON-SALEM 27103
JEFFERSON 919 765-2702

ITH, JOHN BALDWIN, III N /CHN AC
60 CHARLOIS BLVD. 69 69 76
WINSTON-SALEM 27103
MED COLL OF VA 919 768-5834

ITH, NAT ERSKINE IM AC
900 COUNTRY CLUB ROAD 49 49 77
WINSTON-SALEM 27104
MED COLL OF GA 919 748-4524

ITH, RUSSELL LEE IM /GP L/RT
030 W. 25TH STREET 32 41 65
WINSTON-SALEM 27104
U OF ILLINOIS 919 723-2188

OWHITE, JENNIFER CELESTE S
712 ELIZABETH AVE. 89 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-8712

HMER, MARCUS FRANK, JR. GE /IM AC
901 S. HAWTHORNE RD. #310 52 52 56
WINSTON-SALEM 27103
BOWMAN GRAY 919 760-4340

PER, HERBERT ALVA GYN /OBS AC
901 S. HAWTHORNE RD. STE. 320 60 67 68
WINSTON-SALEM 27103
U OF ARKANSAS 919 768-1180

SORIANO, CLINTON REYES CDS AC
1901 S. HAWTHORNE RD. STE. 340 69 69 78
WINSTON-SALEM 27103
U OF EAST 919 765-6277

SOUTH, STEPHEN ALAN IM S
3059-F ORDWAY DR., NW 87 00 84
ROANOKE, VA 24017
BOWMAN GRAY

SPENCER, RICHARD LEWIS P AC
3309-A HEALY DRIVE 60 60 69
WINSTON-SALEM 27103
MED COLL OF VA 919 765-6525

SPENCER, WILLIAM JOSEPH IM /CD AC
2933 MAPLEWOOD AVENUE 61 62 77
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-6020

SPIVEY, DAVID EUGENE, JR. S
1511 MAIN ST. SW 87 00 85
ROANOKE, VA. 24015
BOWMAN GRAY 703 985-0216

SPUDIS, EDWARD VERHINES N AC
1900 S. HAWTHORNE RD. STE. 674 53 59 59
WINSTON-SALEM 27103
U OF MARYLAND 919 765-2195

SPURR, CHARLES LEWIS ON /HEM L
300 S. HAWTHORNE RD. 40 57 57
WINSTON-SALEM 27103
U OF ROCHESTER 919 748-2946

STALLINGS, DAVEY BINGHAM GP AC
P. O. BOX 69 57 57 61
RURAL HALL 27045
BOWMAN GRAY 919 969-9158

STAMEY, CHARLES CLAUD PD AC
3000 BETHESDA PL. #501 53 53 57
WINSTON-SALEM 27103
HARVARD 919 768-6830

STANDISH, MYLES S
838 BRENT 89 00 86
WINSTON-SALEM 27103
BOWMAN GRAY 919 725-6971

STANFORD, EDWARD JOSEPH S
1935 GASTON ST. 89 00 85
WINSTON-SALEM 27103
BOWMAN GRAY

STEPHENSON, ANNE ELIZABETH S
725-A GALES AVE. 89 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-1783

STERCHI, JOHN MICHAEL ON /GS AC
300 S. HAWTHORNE RD. 66 66 79
WINSTON-SALEM 27103
U OF CINCINNATI 919 748-4276

STERNER, DAVID CHARLES GS /OBG S
3487 TANGLEBROOK TR. 88 00 84
CLEMMONS 27012
BOWMAN GRAY 919 766-6117

STEWART, RONALD CLEVELAND PS /HS AC
2901 MAPLEWOOD AVENUE 74 75 82
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-8620

STONE, PERRY GALE PD AC
DALTON ROAD, P. O. BOX 426 76 76 84
KING 27021
BOWMAN GRAY 919 983-2531

STONEROCK, GRACE JANINE S
1641-E NORTHWEST BLVD. 89 00 85
WINSTON-SALEM 27104
BOWMAN GRAY 919 724-5446

STORY, LLOYD JERRELL IM /CD AC
HAWTHORNE MED. PL. #260 61 65 68
1901 S. HAWTHORNE RD.
WINSTON-SALEM 27103
U OF TENNESSEE 919 768-4460

STOUT, ROBERT GREGROY S
415 IRVING ST. 89 00 85
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-9141

STRINGER, LLEWELLYN WINN PUD AC
1728 S. HAWTHORNE ROAD 66 66 74
WINSTON-SALEM 27103
MED COLL OF VA 919 765-7517

STUBBS, ALLSTON JULIUS U AC
7932 LYNDHURST AVENUE 67 67 79
WINSTON-SALEM 27103
DUKE 919 765-4021

STURKIE, H. RAY GYN AC
1365 WESTGATE CENTER DR. 55 64 64
SUITE 1-C
WINSTON-SALEM 27103
U OF ALABAMA

SUGG, WILLIAM CUNNINGHAM IM AC
2240 CLOVERDALE AVE., STE. 220 53 53 57
WINSTON-SALEM 27103
JEFFERSON 919 723-4402

SUMNER, THOMAS EDWARD PDR /PD AC
BOWMAN GRAY, DEPT. OF RAD. 68 68 77
WINSTON-SALEM 27103
U OF ROCHESTER 919 748-4316

SUTTON, HOMER GEORGE FP AC
3722 REYNOLDA ROAD 53 53 56
WINSTON-SALEM 27106
BOWMAN GRAY 919 924-2900

SWOFFORD, JOEL HOWARD S
111 DALEWOOD DR. APT. #6 87 00 84
WINSTON-SALEM 27104
BOWMAN GRAY 919 723-9174

TABOR, CHARLES GORDON IM /EM AC
1360 PINEBLUFF ROAD 54 54 54
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-9074

TAFT, CHARLES VAN ORS AC
1425 PLAZA DR., BOX 25007 68 68 77
WINSTON-SALEM 27114
DUKE 919 768-1270

TALTON, DAVID S. S
1995 HOODS CREEK DR.
NEW BERN 28560
BOWMAN GRAY

TANNER, DAUNE D. EM R
1575 WATERFORD PLACE 84 85 85
FT. MILL, SC 29715
U OF KENTUCKY

TARA, CHARLES SAMUEL OPH AC
1702 S. HAWTHORNE ROAD 69 69 77
WINSTON-SALEM 27103
U OF VERMONT 919 768-4140

TATE, DAVID HARRISON PD AC
3175 MAPLEWOOD AVENUE 65 65 69
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-7030

TAYLOR, BLUCHER EHRINGHAUS OBG AC
2909 LYNDHURST AVENUE 63 63 69
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-5470

TAYLOR, MARY ANN HAMPTON FP AC
4450 GREEN MEADOWS 60 60 64
WINSTON-SALEM 27106
BOWMAN GRAY 919 761-5218

THELAN, KENNETH MACLACHLAN IM AC
250 CHARLOIS BLVD. 75 78 79
WINSTON-SALEM 27103
U OF MICHIGAN 919 768-4730

THOMAS, BARBARA ANNE LOWRY P R
2720 WINDY CROSSING 85 85 85
WINSTON-SALEM 27107
MED U OF SC 919 785-2073

THOMASON, ROBERT BRADLEY,III GS R
N.C. BAPTIST HOSPITAL 84 86 85
300 S. HAWTHORNE RD.
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-2011

THOMPSON, JAMES NICHOLAS OTO /PSF AC
BOWMAN GRAY-SURGERY 71 71 80
WINSTON-SALEM 27103
OHIO STATE U 919 748-4161

TOLMIE, JOHN DUNCAN AN AC
1543 ABBEY COURT 59 70 76
WINSTON-SALEM 27103
MCGILL U 919 727-4271

TOOLE, JAMES FRANCIS N /IM AC
300 S. HAWTHORNE RD. 49 62 63
WINSTON-SALEM 27103
CORNELL U 919 748-4101

TROOST, B. TODD N /OPH AC
300 S. HAWTHORNE RD. 63 70 85
DEPT. OF NEUROLOGY
WINSTON-SALEM 27103
HARVARD 919 748-4643

34. FORSYTH-STOKES-DAVIE COMPONENT SOCIETY (Continued)

TROWELL, AMY REBECCA PD /PHO AC
250 CHARLOIS BOULEVARD 72 72 78
WINSTON-SALEM 27103
MED COLL OF GA 919 768-4730

TRUJILLO, JAIME EMILIO IM /END AC
3111 MAPLEWOOD AVE., STE. 101 73 75 77
WINSTON-SALEM 27103
CASE WESTERN RES 919 768-0496

TUCKER, WILLIAM YORK, JR. CDS AC
300 S. HAWTHORNE ROAD 68 68 86
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4487

TURNER, CHARLES SIEWERS PDS AC
2819 FOREST DRIVE 70 70 75
WINSTON-SALEM 27104
BOWMAN GRAY 919 724-0345

TURNER, HENRY CATLETT AN AC
300 S. HAWTHORNE RD. 62 62 68
WINSTON-SALEM 27103
U OF NC 919 748-4791

UELAND, FREDERICK R. S
1819 GRACE ST. 90 00 87
300 S. HAWTHORNE RD.
WINSTON-SALEM 27103
BOWMAN GRAY 919 723-0070

VALK, HENRY LEWIS IM L
300 S. HAWTHORNE RD. 41 43 48
WINSTON-SALEM 27103
DUKE 919 748-4677

VAN NOORD, GLENN RICHARD FP AC
4020 DRESDEN DR. 74 74 86
WINSTON-SALEM 27104
WAYNE STATE U 919 748-2230

VREELAND, WALLING D., JR. GP AC
3910 COUNTRY CLUB ROAD 55 55 57
WINSTON-SALEM 27104
BOWMAN GRAY 919 765-0170

WADDELL, BRAD EDWARD S
204 PERSHING AVE., SW 89 00 86
WINSTON-SALEM 27103
BOWMAN GRAY 919 725-2939

WALKER, DANA SHERRICK FP R
2100 BRICKHAVEN DR. 84 87 82
GREENSBORO 27407
BOWMAN GRAY

WALKER, JAMES LYSLE S
2353 QUEEN ST. #D 89 00 86
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-9268

WALKER, LAWRENCE CRUMPLER, JR. OBG AC
2927 LYNDHURST AVE. 60 60 69
WINSTON-SALEM 27103
DUKE 919 765-9350

WALKER, WILLIAM THOMAS FP L/RT
202 S. CHERRY ST. 49 50 50
KERNERSVILLE 27284
MED COLL OF VA 919 993-2011

WALL, ROSCOE LEGRAND, JR. GYN /END L/RT
440 SHERWOOD FOREST ROAD 40 40 50
WINSTON-SALEM 27104
JEFFERSON 919 765-3383

WALLENHAUPT, STEPHEN L. CDS AC
300 S. HAWTHORNE RD. 78 82 87
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-2281

WALLEY, BRUCE DOUGLAS CD /CDS AC
2827 LYNDHURST AVE. STE. 205 74 74 83
WINSTON-SALEM 27103
BOWMAN GRAY 919 768-9535

WALTER, PAUL ANDREW, JR. AN AC
2832 FAIRMONT ROAD 55 55 70
WINSTON-SALEM 27106
BOWMAN GRAY 919 768-7680

WARD, WALTER AVEREL, JR. OTO /A AC
1411-B PLAZA WEST RD. 61 61 76
WINSTON-SALEM 27103
BOWMAN GRAY 919 760-0240

WATSON, NAT ERSKINE, JR. NM /IM AC
766 OAKLAWN AVENUE 66 66 79
WINSTON-SALEM 27104
MED U OF SC 919 748-3520

WATTS, LESTER EARL CD /IM AC
300 S. HAWTHORNE RD. 57 57 57
WINSTON-SALEM 27103
BOWMAN GRAY 919 748-4581

WEAVER, EDWARD HARRISON P AC
190 CHARLOIS BLVD. 74 75 81
WINSTON-SALEM 27103
U OF ALABAMA 919 768-6930

WEAVER, R. GREY, JR. PD AC
771 REAFORD ROAD 77 77 84
WINSTON-SALEM 27104
BOWMAN GRAY 919 748-4091

WEBB, LAWRENCE XAVIER ORS AC
300 S. HAWTHORNE RD. 78 78 85
WINSTON-SALEM 27103
TEMPLE U 919 748-3606

WEBER, GLENDA H. PTH AC
P. O. BOX 809 65 65 70
CLEMMONS 27012
BOWMAN GRAY 919 768-7680

WEBER, JOEL MICHAEL S
1045-C BANK ST. 87 00 84
WINSTON-SALEM 27101
BOWMAN GRAY 919 722-6775

WEBER, STEPHEN F. R
2772 ASBURY LANE 82 83 87
WINSTON-SALEM 27103
SOU IL MED SCH 919 760-2621

WEEKS, DUKE BYRON AN AC
2615 TALLWOOD COURT 65 65 75
WINSTON-SALEM 27106
BOWMAN GRAY 919 748-4791

WELANDER, CHARLES ERIC GYN /ON AC
300 S. HAWTHORNE RD. 71 72 81
WINSTON-SALEM 27103
U OF CHICAGO 919 748-4022

WELCH, EARL PARKS, JR. GS /TS AC
2825 LYNDHURST AVE. STE. 105 57 57 65
WINSTON-SALEM 27103
U OF NC 919 760-3112

WELFARE, CHARLES RANDALL IM L/RT
1113 STANDISH COURT 40 40 47
WINSTON-SALEM 27106
U OF PENN 919 723-3856

WELLS, ANDREW HENDERSON S
1715 ELIZABETH AVE. 88 00 84
WINSTON-SALEM 27103
BOWMAN GRAY 919 761-0895

WESTON, JONATHAN D. OBG AC
495 N. CLEVELAND AVE. 75 75 85
WINSTON-SALEM 27101
U OF ROCHESTER 919 725-8874

WESTON, LYNDA RIGSBEE P AC
610 COLISEUM DR. 77 78 83
CHILD GUIDANCE CENTER
WINSTON-SALEM 27106
BOWMAN GRAY 919 723-3571

WHITAKER, RICHARD HARPER GP L/RT
120 N. CHERRY ST. 34 34 39
KERNERSVILLE 27284
U OF PENN 919 993-3838

WHITE, DOUGLAS RECTOR HEM /ON AC
BOWMAN GRAY, DEPT. OF MED. 67 74 75
WINSTON-SALEM 27103
U OF CHICAGO 919 748-4380

WHITE, JAMES ALFRED, JR. PTH AC
2240 CLOVERDALE AVE.-#198 48 55 56
WINSTON-SALEM 27103
U OF TENNESSEE 919 722-1154

WHITENER, DONALD LEONARD OBG AC
2927 LYNDHURST AVENUE 46 50 51
WINSTON-SALEM 27103
JOHNS HOPKINS 919 765-9350

WIGGINS, JOHN CARROLL, JR. IM L/RT
1121 PARTRIDGE LANE 41 47 48
WINSTON-SALEM 27106
HARVARD 919 765-5334

WIGGINS, THOMAS BARNES DR R
2508 MOUNT SALEM ROAD 83 85 81
PFAFFTOWN 27040
BOWMAN GRAY 919 922-1364

WILLIAMS, KENAN BANKS PD A
3175 MAPLEWOOD AVENUE 44 44
WINSTON-SALEM 27103
JEFFERSON 919 768-70

WILLIAMS, ROBERT BARCLAY
21 FISHERS MILL DR. 87 00 8
COLUMBIA, SC 29206
BOWMAN GRAY

WILLIAMS, ROBERT LEE PD A
2004 CLAXTON DRIVE 75 76
WINSTON-SALEM 27107
DUKE 919 785-00

WILLIAMS, SAMUEL CLAY IM A
2637 AUDUBON DR. 45 46
WINSTON-SALEM 27106
U OF PENN 919 722-38

WILSON, ROBERT LEWIS, JR.
2418 JEFFERSON AVE. 87 00 8
WINSTON-SALEM 27103
BOWMAN GRAY 919 722-45

WILSON, VIRGIL ARCHIBALD AN A
4193 DIMHOLT COURT 54 54
WINSTON-SALEM 27104
U OF NC 919 765-84

WOLFE, JOHN RICHARD IM /RHU A
2933 MAPLEWOOD AVENUE 67 67
WINSTON-SALEM 27103
MED COLL OF VA 919 765-16

WOLFMAN, NEIL TURNER R A
BOWMAN GRAY, DEPT. OF RAD. 71 72
WINSTON-SALEM 27103
ALBANY MED COLL 919 748-24

WOODRUFF, RALPH DUTTON PTH A
BOWMAN GRAY, DEPT. OF PATH. 65 68
WINSTON-SALEM 27103
JEFFERSON 919 748-43

WRIGHT, JOHN HERMAN, JR. PS /GS A
2901 MAPLEWOOD AVENUE 68 68
WINSTON-SALEM 27103
U OF NC 919 765-86

WU, WALLACE CHI LI GE /IM A
300 S. HAWTHORNE RD. 66 66
WINSTON-SALEM 27103
U OF HONG KONG 919 748-46

YOPP, JAMES DENNIE, JR. CD /IM A
602 FORSYTH MEDICAL PARK 66 66
WINSTON-SALEM 27103
BOWMAN GRAY 919 765-48

YOUNCE, LAURA L. H.
4361 JOHNSBOROUGH CT., APT 78 90 00 8
WINSTON-SALEM 27104
BOWMAN GRAY 919 768-59

YOUNT, ERNEST HARSHAW, JR. IM L/R
2800 GREENWICH ROAD 43 48
WINSTON-SALEM 27104
VANDERBILT U 919 748-46

ZAGORIA, RONALD JAY DR
300 S. HAWTHORNE RD. 83 84 8
DEPT. OF RADIOLOGY
WINSTON-SALEM 27103
U OF MARYLAND 919 748-43

ZAMMIT, ROBERT PAUL OBG A
406 FORSYTH MEDICAL PARK 56 67
WINSTON-SALEM 27103
CREIGHTON U 919 765-22

ZANOLLI, MICHAEL DOMINIC D A
300 S. HAWTHORNE RD. 81 81 8
WINSTON-SALEM 27103
U OF TENNESSEE 919 748-27

ZARATE, RENATO IM A
P. O. BOX 86 69 70
DANBURY 27016
FAR EAST U 919 593-20

ZEKAN, PATRICIA JOAN ON /IM A
300 S. HAWTHORNE ROAD 78 78 8
WINSTON-SALEM 27103
WEST VA U 919 748-20

ZIMMERMAN, CAROL FRANCES OPH /N
784 N. STRATFORD ROAD 81 82 8
WINSTON-SALEM 27104
U OF MISSISSIPPI 919 748-35

35. FRANKLIN COMPONENT SOCIETY

FFICERS—**President:** Carey S. Perry, M.D., 113 Jolly St., Louisburg 27549 (919 496-4250)
Secretary: Paul Kile, M.D., 113 Jolly St., Louisburg 27549 (919 496-4250)

EDDERS, JAMES DOYLE GP /CD AC
113 JOLLY STREET 56 56 62
LOUISBURG 27549
U OF NC 919 496-4250

ITTERSON, BERNARD LOW FP AC
626 N. BICKETT BOULEVARD 52 53 55
LOUISBURG 27549
MED COLL OF VA 919 496-3680

ERDUE, JASPER BURT, JR. GS AC
111 JOLLY STREET 64 64 71
LOUISBURG 27549
BOWMAN GRAY 919 496-4177

PERRY, CAREY JONES FP AC
113 JOLLY STREET 56 56 62
LOUISBURG 27549
U OF NC 919 496-4250

STALLINGS, STEPHEN D., JR. GP AC
ROUTE #2, BOX 109 46 47 50
ZEBULON 27597
BOWMAN GRAY 919 269-8802

STOVER, PHILLIP E. FP AC
FRANKLIN FAMILY MEDICINE 80 81 86
519 N. BICKETT BLVD.
LOUISBURG 27549
EASTERN VA 919 496-5774

WHELESS, THOMAS O. FP /GER AC
948 N. MAIN STREET 43 43 47
LOUISBURG 27549
BOWMAN GRAY 919 496-3375

36. GASTON COMPONENT SOCIETY

FFICERS—**President:** Henry C. Thomason, M.D., 1021 X-Ray Dr., Gastonia 28054 (704 867-2341)
Secretary: John B. Garrett, Jr., M.D., 631 Cox Rd., Gastonia 28054 (704 864-7764)
Executive Secretary: Linda S. Mauldin, P.O. Box 1747, Gastonia 28053 (704 866-2990)

BERNETHY, WILLIAM BORDEN, JR. PD AC
610 DEERWOOD 60 60 66
GASTONIA 28052
U OF NC 704 864-4298

DAMS, SIMEON HUEY GS AC
902-G COX ROAD 53 55 59
GASTONIA 28054
MED COLL OF VA 704 864-7821

GNER, MARSHAL EDWARD FP AC
609 E. ACADEMY ST. 52 54 54
PO BOX 159
CHERRYVILLE 28021
DUKE 704 435-6058

KEN, JANET CYBRYNSKI IM AC
1349-B E. GARRISON BLVD. 76 78 80
GASTONIA 28054
U OF NC 704 861-0210

KEN, WARWICK, III IM AC
1349-B E. GARRISON BLVD. 76 78 73
GASTONIA 28054
U OF NC 704 861-0210

ZCORBE, RAUL CESAR FP AC
79 MCADENVILLE ROAD 52 64 65
BELMONT 28012
U OF HABANA 704 825-3101

KERS, RICHARD EDWIN OPH AC
631 COX ROAD 70 72 74
GASTONIA 28054
MED U OF SC 704 864-7789

LBRIGHT, BENJAMIN PHILLIPS,JR IM AC
1896 REMOUNT ROAD 65 65 71
GASTONIA 28054
EMORY U 704 867-0735

LLAN, JAMES THOMAS, JR. R AC
3705 PRINCETON DRIVE 70 70 76
GASTONIA 28054
U OF PENN 704 866-2948

NTHONY, LUTHER LESLIE, JR. IM /CD AC
1896 REMOUNT ROAD 53 53 54
GASTONIA 28054
JEFFERSON 704 867-0736

RNEY, GERALD WAYNE DR AC
GASTON RAD.MED. BLDG. 74 75 82
P. O. BOX 1495
GASTONIA 28052
U OF TENNESSEE 704 864-4378

YCOCK, PERRY WILLIAM, JR. IM /GE AC
1896 REMOUNT ROAD 68 68 74
GASTONIA 28054
MED U OF SC 704 867-0735

ARRINGER, ROBERT PHILLIPS IM AC
1896 REMOUNT ROAD 66 66 74
GASTONIA 28054
U OF NC 704 867-0730

LAKE, ROBERT ADAMS ORS AC
902-D COX ROAD 65 65 74
GASTONIA 28054
MED U OF SC 704 864-6723

BOLIN, LEWIS BRYANT GP AC
226 WILMOT DR. 54 54 58
GASTONIA 28054
BOWMAN GRAY 704 865-2386

BOLIN, LEWIS BRYANT, JR. FP AC
226 WILMOT DRIVE 82 84 86
GASTONIA 28054
BOWMAN GRAY 704 865-2386

BOND, JOHN PENNINGTON GS L/RT
1806 FAIRFIELD DRIVE 40 47 48
GASTONIA 28054
MED COLL OF GA 704 865-0154

BONNIN, IRVIN RAYMOND OBG AC
1225 E. GARRISON BOULEVARD 64 64 74
GASTONIA 28054
LA STATE U 704 867-7226

BOYCE, OREN DOUGLAS IM /HYP L
406 S. CHESTER STREET 33 35 46
GASTONIA 28052
DUKE 704 865-3181

BRADLEY, GEORGE LEE, JR. GP /AM AC
800 E. FIRST STREET 68 69 83
CHERRYVILLE 28021
PHIL OSTEO MC 704 435-4111

BRANDON, DANIEL EM AC
3028 MT. VERNON DRIVE 65 65 70
GASTONIA 28054
BOWMAN GRAY 704 866-2266

BREEDEN, THOMAS E. GYN /OBG AC
603 COX ROAD, ABERDEEN PLAZA 60 60 72
GASTONIA 28052
MED U OF SC 704 867-3551

CAIN, FRANK CORAL, JR. GP AC
224 NEW HOPE ROAD 53 54 55
GASTONIA 28052
DUKE 704 865-8241

CALDWELL, JESSE BURGOYNE, JR. GYN L/RT
1307 PARK LANE 41 41 50
GASTONIA 28052
MCGILL U 704 865-0968

CHAMBERS, ROBERT EDWARD PD AC
1839 E. GARRISON BOULEVARD 52 56 56
GASTONIA 28054
DUKE 704 864-2685

CONNER, JOEL DEWITT GYN AC
471 COX ROAD 57 58 63
GASTONIA 28052
U OF NC 704 865-0033

COUTURE, MARK MOSCOE GS AC
902 COX RD. STE. G 74 74 79
GASTONIA 28054
MCGILL U 704 864-6011

COX, RUSSELL JACKSON PD AC
902 COX RD. STE. C 79 79 82
GASTONIA 28052
U TX-SAN ANTONIO 704 864-6522

DAVIS, RUFUS JACKSON GP AC
P. O. BOX 337 46 50 51
CRAMERTON 28032
MED U OF SC 704 825-8266

DEAS, DAVID JOHN P AC
238-3 WILMOT DR., BLDG. 239 61 61 65
GASTONIA 28054
DUKE 704 867-2338

DICKSON, BRICE TEMPELTON, JR. IM L/RT
837 ATHENIAN DR. 44 44 50
GASTONIA 28052
JEFFERSON 704 867-7656

DIGBY, RONALD WYMAN CD /IM AC
1896 REMOUNT ROAD 71 72 77
GASTONIA 28054
MED COLL OF GA 704 867-0735

DRAKE, SAMUEL THOMAS GE /IM AC
603 COX ROAD 73 75 79
GASTONIA 28054
MED U OF SC 704 867-3585

EAVES, RUPERT SPENCER, JR. OPH AC
631 COX RD. 60 60 66
GASTONIA 28054
U OF NC 704 864-7789

ECKBERT, WILLIAM FOX FP L
P. O. BOX 309 39 41 42
CRAMERTON 28032
DUKE 704 824-1321

FEUER, ABE LAWRENCE OTO L/RT
1006 FAIRFIELD DR. 39 47 49
GASTONIA 28054
HAHNEMANN 704 864-2222

FISHER, CARL ELLIS PD AC
902-C COX ROAD 69 69 76
GASTONIA 28054
U OF NC 704 867-5356

FORRESTER, JAMES SUMMERS FP /GPM AC
P. O. BOX 459 62 62 63
STANLEY 28164
BOWMAN GRAY 704 263-4716

FREEMAN, PERCY LEE U L/RT
LAKE WYLIE, RT. #5, BOX 410-G 43 47 47
CLOVER, SC 29710
MED COLL OF GA 803 831-8598

GARRETT, JOHN BOSTIAN, JR. U AC
631 COX ROAD 73 74 82
GASTONIA 28054
MED U OF SC 704 864-7764

GIBBS, STUART WYNN R L/RT
2647 ARMSTRONG COURT 44 44 48
GASTONIA 28054
BOWMAN GRAY 704 865-5883

GLENN, DOROTHY NORMAN OBG L
ISLAMABAD-ID,DEPT. OF STATE 38 38 40
WASHINGTON, DC 20523
MED COLL OF PENN 703 235-9656

GREGORY, WILLIAM LYON GP AC
2405 LOWELL ROAD 55 57 58
GASTONIA 28052
MED U OF SC 704 865-8134

GROVES, ROBERT BURWELL, JR. OBG AC
902 COX ROAD, SUITE F 53 53 54
GASTONIA 28052
MED COLL OF VA 704 867-1549

36. GASTON COMPONENT SOCIETY (Continued)

HAMMOND, WILLIAM HOWARD, JR. GP AC
63 64 72
224 S. NEW HOPE RD.
GASTONIA 28054
MEHARRY MED COLL 704 867-3621

HAYES, WILLIAM CLAYTON, JR. PD AC
74 76 85
635-A COX ROAD
GASTONIA 28054
U OF NC 704 864-5437

HEMBREE, EUGENE EDWARD, JR. OBG AC
66 66 73
1225 E. GARRISON BLVD.
GASTONIA 28054
MED U OF SC 704 865-7417

HENDERSON, BRADLEY E. ORS AC
81 82 86
902 COX RD. STE. A
GASTONIA 28054
MED COLL OF GA 704 865-6487

HORSLEY, WILLIAM NOLEN FP L
41 46 47
28 E. WOODROW AVENUE
BELMONT 28012
DUKE 704 825-5376

HOUSER, FOREST MELVILLE GP L/RT
28 28 30
410 S. ELM STREET
CHERRYVILLE 28021
U OF PENN 704 435-6803

HOWE, DONALD DOUGLAS OBG AC
70 71 77
1225 E. GARRISON BLVD.
GASTONIA 28054
U OF NC 704 865-7416

HUTCHINS, CHARLES HUBERT PSF /OTO AC
66 66 75
750 COX ROAD
GASTONIA 28054
MED COLL OF GA 704 867-7212

JACOBS, GEORGE DANIEL OBG AC
76 76 82
1225 E. GARRISON BLVD.
GASTONIA 28054
U OF NC 704 865-7416

JARMAN, WILLIAM HENRY, JR. ORS AC
67 67 74
902 COX RD. STE. E
GASTONIA 28052
U OF NC 704 867-2333

JARVIS, JAMES LUTHER NM /R AC
46 46 52
1516 PINEOLA LANE
GASTONIA 28054
BOWMAN GRAY 704 864-4378

KAHN, ROBERT HOWARD D AC
72 73 76
1072 X-RAY DR.
PO BOX 3598
GASTONIA 28053
NEW YORK U 704 864-8386

KEATHLEY, FRANKLIN BURR D /A AC
46 50 50
224 NEW HOPE ROAD
GASTONIA 28052
U OF TENNESSEE 704 867-0773

KING, GLENDALL LEE ORS AC
55 65 65
902 COX ROAD, SUITE A
GASTONIA 28054
WASHINGTON U 704 865-6487

LAHSER, CHARLES IRVING PD RT
46 46 52
902-C COX ROAD
GASTONIA 28052
BOWMAN GRAY 704 867-5356

LEEPER, WILLIAM EDWARD, JR. IM RT
43 44 52
2525 PINEWOOD RD.
GASTONIA 28054
DUKE

LEONE, CHERYL LEVINE PTH AC
69 70 78
1740 MONTCLAIR AVENUE
GASTONIA 28054
TULANE U 704 866-2851

LEONE, PHILIP GEORGE PTH AC
68 68 78
1740 MONTCLAIR AVENUE
GASTONIA 28054
TULANE U 704 866-2851

LESTER, ROBERT HILTON OBG AC
75 76 80
902 COX ROAD, SUITE F
GASTONIA 28054
U OF NC 704 867-6386

LUVIS, L.D.A. CLAUDIUS IM AC
71 71 83
1119 CHURCHILL DRIVE
GASTONIA 28052
U OF CEYLON 704 867-1306

MASON, GARY MERLIN OBG AC
82 86 86
MEDICAL PARK
902 COX RD., STE. F
GASTONIA 28054
CASE WESTERN RES 704 867-6386

MCDOWELL, ROY HENDRIX FP L/RT
29 29 31
100 DOGWOOD LANE
BELMONT 28012
U OF MARYLAND 704 825-8546

MILLER, ANDREW CLEVELAND,III FP AC
55 55 60
311 W. THIRD AVENUE
GASTONIA 28052
U OF NC 704 865-4231

MILLER, GEORGE ROLFE ORS L/RT
43 50 50
902 COX ROAD, SUITE A
GASTONIA 28052
U OF ROCHESTER 704 865-6487

MORRIS, LESLIE MORGAN R L/RT
43 43 48
3636 BRENTWOOD DR.
GASTONIA 28054
BOWMAN GRAY 704 865-4430

MOSKOWITZ, MARK SANDERS GS /VS AC
74 80 80
2555 PEMBROKE ROAD
GASTONIA 28054
BOSTON U 704 864-8377

MURPHY, THOMAS LYNCH, JR. IM /PUD AC
73 76 82
1021 X-RAY DR.
GASTONIA 28054
HARVARD 704 867-2341

NICHOLS, GEORGE LOUIS P /CHP AC
63 64 74
1431 LAUREL LANE
GASTONIA 28054
CREIGHTON U 704 867-4411

NIEMEYER, CHARLES JOHN ORS AC
66 66 74
902 COX ROAD, SUITE A
GASTONIA 28054
DUKE 704 865-6487

NORCROSS, FREDERICK CLEVELAND PD AC
64 64 71
1839 E. GARRISON BOULEVARD
GASTONIA 28052
GEO WASHINGTON U 704 864-2685

OGDEN, ROBERT HARVEY OBG AC
63 69 70
902 COX RD., STE. F
GASTONIA 28054
MED COLL OF GA 704 867-6386

PEACH, CHARLES ARTHUR OBG AC
78 79 83
902 COX RD., STE. F
GASTONIA 28054
MED COLL OF GA 704 867-6386

PENDLEY, ROBERT ALAN GE /IM AC
76 77 82
211 S. CHESTNUT STREET
GASTONIA 28054
EMORY U 704 867-4406

PERKINS, ROBERT SANBORN TS /GS AC
60 62 84
3406 COUNTRY CLUB DR.
GASTONIA 28054
TUFTS U 704 864-8377

PILLAI, JEYAKUMAR P. P AC
78 78 85
238-3 WILMOT DR. #239
GASTONIA 28054
KARNATAK UNIV. 704 867-2338

PRINCE, GEORGE EDWARD PD AC
44 47 48
3709 ST. REGIS DR.
GASTONIA 28054
DUKE 704 866-3222

PUSTROM, EINAR P /CHP AC
58 58 79
239 WILMONT ROAD
GASTONIA 28054
BOWMAN GRAY 704 867-2338

RANKIN, RICHARD EUGENE FP /GP AC
50 50 52
RANKIN CLINIC
MOUNT HOLLY 28120
U OF VIRGINIA 704 827-3031

RICE, EDMOND LEE GS H
31 32 43
UNITED CHRISTIAN HOSPITAL
LAHORE, WEST PAKISTAN 00000
EMORY U

RINEHART, DAVID APGAR FP AC
82 82 86
9 FOREST HILL ROAD
BELMONT 28012
U OF VIRGINIA 704 825-5333

ROBERTS, RICHARD SCOTT AI /PD AC
78 80 83
1050 X-RAY DRIVE, SUITE A
GASTONIA 28054
COLUMBIA U 704 861-0515

SANDERS, JAMES ALLEN ORS A
63 63
902-E COX ROAD
GASTONIA 28052
BOWMAN GRAY 704 867-23

SCHMITTER, KARL JOSEPH GS /HNS A
78 81
902 COX RD., STE. C
GASTONIA 28054
OHIO STATE U 704 864-78

SCOTT, JACKSON VANCE FP /IM A
59 62
101 W. CATAWBA AVENUE
MOUNT HOLLY 28120
JEFFERSON 704 827-30

SEEAR, TORBEN GYN L/F
41 54
938 PARAMOUNT CIRCLE
GASTONIA 28052
U OF COPENHAGEN 704 864-79

SHANNON, WILLIAM BARTHOLOMEW OPH A
76 76
1061 X-RAY DR.
GASTONIA 28054
EMORY U 704 861-85

SHASTRY, CHANDRASHEKARA IM /END A
70 71
607 E. GARRISON BLVD.
GASTONIA 28054
KARNATAK U 704 866-46

SHERRILL, WILLIAM C., JR. IM /PUD A
79 79
1896 REMOUNT RD.
GASTONIA 28054
U OF FLORIDA 704 867-07

SILVOY, EDWARD JOHN OTO /PS A
71 72
1010 X-RAY DR.
GASTONIA 28054
NEW YORK MED COL 704 865-76

SIVA, SIVALINGAM NS A
65 76
900 COX ROAD
GASTONIA 28054
U OF SINGAPORE 704 865-76

SMITH, JOSEPH PINKNEY GP A
45 45
1508 S. YORK STREET
GASTONIA 28052
BOWMAN GRAY 704 864-34

SODERSTROM, LAWRENCE PAUL DR /NM A
80 81
10230 BALMORAL CIRCLE
CHARLOTTE 28210
BOWMAN GRAY 704 864-43

STARK, THOMAS HALL GYN A
57 69
603 COX ROAD
GASTONIA 28054
MED COLL OF VA 704 866-01

STREETER, CHARLES TRUMAN FP A
45 55
222 WOODRIDGE DR.
BELMONT 28012
U OF NEBRASKA 704 825-44

STROUPE, ALBERTUS ULA, JR. GP L/R
31 31
157 OAKLAND STREET
MOUNT HOLLY 28120
MED COLL OF VA 704 827-48

TAYLOR, JAMES EDWARD U A
77 77
631 COX ROAD
GASTONIA 28052
MED COLL OF GA 704 867-48

THOMAS, HENRY FULLER GS /CDS A
66 66
902-G COX ROAD
GASTONIA 28052
U OF NC 704 864-78

THOMASON, HENRY CLAYTON, JR. CD /IM A
67 67
1021 X-RAY DR.
GASTONIA 28054
U OF NC 704 867-23

TYNER, HUGH EDWARD GS /TS A
46 46
902-G COX ROAD
GASTONIA 28054
BOWMAN GRAY 704 864-78

VARGAS, CARLOS ABRAHAM DR A
63 75
P. O. BOX 1495
GASTONIA 28052
U OF BOLIVIA 704 864-43

VOCI, VINCENT EUGENE PS /HS A
74 75
902 COX RD., STE. B
GASTONIA 28054
U OF LOUISVILLE 704 867-58

WAGGONER, LONNIE AUSTINE, JR. IM R
48 53
2522 SHEFFIELD DR.
GASTONIA 28054
DUKE 704 865-54

36. GASTON COMPONENT SOCIETY (Continued)

'ALLACE, ROBERT BRUCE EM AC
3101 ANDOVER CIRCLE 76 77 80
GASTONIA 28054
DALHOUSIE U 704 867-2580

'ARLICK, JOHN THOMAS, III U AC
631 COX ROAD 66 66 72
GASTONIA 28052
MED U OF SC 704 864-7764

'EATHERS, BAILEY GRAHAM, JR. FP AC
222 S. MAIN STREET 60 61 61
STANLEY 28164
MED COLL OF VA 704 263-8945

'EEKS, JOHN WESLEY OBG AC
902 COX ROAD 65 65 85
GASTONIA 28054
DUKE 704 867-6386

'HITE, GROVER WATTS U AC
631 COX ROAD 56 64 64
GASTONIA 28054
U OF ALABAMA 704 864-7764

WHITESIDES, EDWARD STEELE ORS AC
902 COX ROAD, SUITE D 51 52 57
GASTONIA 28054
DUKE 704 864-6723

WILL, THOMAS AUGUSTINE GP AC
P. O. BOX 515 48 49 53
DALLAS 28034
BOWMAN GRAY 704 922-3106

WILLIAMS, ERNEST COUNCIL GS /TS RT
3618 CLUB COLONY DR., W. 51 56 56
GASTONIA 28054
TULANE U 704 864-1417

WILLIAMS, WARREN HERBERT P AC
431 S. YORK ST. 80 86 86
GASTONIA 28052
GUADALAJARA U 704 788-8400

WILLIS, H.S.K., JR. FP /AM AC
125 W. CENTRAL AVE. 52 52 76
MOUNT HOLLY 28120
DUKE 704 827-5876

WINGFIELD, THOMAS WHETSELL AN AC
629 TORRENCE DRIVE 65 73 77
GASTONIA 28052
U OF MARYLAND 704 864-2499

WITTENBERG, PETER HERBERT PTH AC
GASTON MEM. HOSP. 64 65 78
PO BOX 1747
GASTONIA 28053
U OF COLORADO 704 866-2851

YARBOROUGH, JESSE GRAHAM, JR. AN AC
RT. 1, BOX 125 78 78 85
CATAWBA COVE RD.
BELMONT 28012
U OF NC

39. GRANVILLE COMPONENT SOCIETY

)FFICERS—**President:** John W. Watson, M.D., 104 New College St., Oxford 27565 (919 693-8126)
Secretary: Steve D. Ertischek, M.D., 1032 College St., Oxford 27565 (919 693-6541)

LKHALDI, AOUS SALIM R AC
104 TRANQUIL CIRCLE 71 77 78
OXFORD 27565
DAMASCUS U 919 693-5115

NDERSON, JOHN B., JR. FP AC
1018 COLLEGE STREET 80 81 84
OXFORD 27565
U OF CINCINNATI 919 693-3972

ARKER, CAROLYN E. CULBRETH P AC
1028 COLLEGE STREET 58 58 64
OXFORD 27565
U OF NC 919 693-3003

OLSON, JOSEPH SAMPSON FP RT
P. O. BOX 429 51 51 65
OXFORD 27565
HOWARD U 919 693-2697

ANIEL, LOUIE SAMUEL FP L/RT
124 PINE CONE DRIVE 40 40 46
OXFORD 27565
U OF MARYLAND 919 693-6735

LLIOTT, JAMES FRANCIS, SR. P AC
ROUTE #2, BOX 405 54 54 57
CREEDMOOR 27522
DUKE 919 528-2433

RTISCHEK, STEPHEN DAVID IM AC
1032 COLLEGE STREET 74 77 78
OXFORD 27565
U OF BOLOGNA 919 693-6541

GOUBRAN, MICHEL OBG /END AC
104 BELLE ST. 62 63 77
OXFORD 27565
EIN SHAMS U 919 693-2131

HAMPTON, JAMES WELDON OBG AC
1016 COLLEGE ST. EXT. 81 81 87
OXFORD 27565
U OF TX-HOUSTON 919 693-1082

JUER, ROBERT CRAIG FP AC
TELECOM DR. 79 83 86
CREEDMOOR 27522
U OF TENNESSEE 919 528-1535

MAHAN, DENNIS MICHAEL FP AC
1012 COLLEGE ST. 77 79 82
OXFORD 27565
U OF MONTERREY 919 693-7108

MANGUM, RICHARD ARNOLD FP AC
PO BOX 706 64 64 66
CREEDMOOR 27522
U OF NC 919 528-0707

MASSAQUOI, ALFRED DADEE LAMIN OBG AC
1030 COLLEGE ST. 79 80 85
P. O. BOX 1513
OXFORD 27565
HOWARD U 919 693-4212

NOEL, RICHARD DAVID GS AC
1026 COLLEGE STREET 49 56 56
OXFORD 27565
MED COLL OF GA 919 693-7066

REEDER, PAUL ARLINGTON GS AC
1026 COLLEGE STREET 61 61 80
OXFORD 27565
U OF MARYLAND 919 693-7066

SIMONSON, DELLA SUE PD /PH AC
MURDOCH CENTER 55 55 59
BUTNER 27509
U OF ARKANSAS 919 575-7740

STEAD, EUGENE ANSON, JR. IM /CD L
ROUTE #1, BOX 194 32 47 47
BULLOCK 27507
EMORY U 919 684-6587

TARRY, WILLIAM BURWELL, JR. FP AC
104 NEW COLLEGE STREET 53 54 54
OXFORD 27565
MED COLL OF VA 919 693-8126

TAYLOR, RICHARD LEWIS FP AC
1018 COLLEGE STREET 62 62 66
OXFORD 27565
U OF NC 919 693-3972

WATSON, JOHN WILLIAM FP AC
104 NEW COLLEGE STREET 53 55 55
OXFORD 27565
MED COLL OF VA 919 693-8126

WHITENER, BETTY LOU FP AC
P. O. BOX 220 59 60 77
OAK RIDGE, LA 71264
U OF OKLAHOMA 318 647-3720

40. HIGH POINT MEDICAL SOCIETY

OFFICERS—**President:** Michael B. Hussey, M.D., P.O. Box 5388, High Point 27262 (919 889-3242)
Secretary: R. Wade Markham, M.D., 624 Quaker Ln., 302-B, High Point 27262 (919 887-3195)
Executive Director: Mr. James H. Busick, 612 Pasteur Dr., Ste. 404, Greensboro 27403 (919 854-1563)

DERHOLDT, MARCUS LAFAYETTE PD L
624 QUAKER LANE, SUITE 100-A 43 43 49
HIGH POINT 27262
U OF MARYLAND 919 882-4187

KERS, RICHARD ELBERT U AC
624 QUAKER LANE 59 59 70
HIGH POINT 27262
U OF TENNESSEE 919 886-5151

RNOLD, GORDON BRUCE IM AC
624 QUAKER LANE, STE. 213-B 62 62 72
HIGH POINT 27262
NORTHWESTERN U 919 883-4132

RTHUR, ROBERT KEY OBG AC
P. O. BOX 5128 51 57 57
HIGH POINT 27262
U OF MARYLAND 919 887-3011

UMAN, EDWIN LEWIS IM AC
624 QUAKER LANE, SUITE 210-A 55 55 61
HIGH POINT 27262
BOWMAN GRAY 919 841-8822

AVERETT, LELAND STANLEY, JR. FP AC
700 N. ELM STREET 54 54 55
HIGH POINT 27262
U OF NC 919 882-1324

BARDELAS, JOSE ANTONIO, JR. A /PD AC
100 WESTWOOD AVE. 73 75 77
HIGH POINT 27262
JOHNS HOPKINS 919 883-1393

BENNETT, HERRON KENT OBG AC
P. O. BOX 5128 52 52 54
HIGH POINT 27262
BOWMAN GRAY 919 887-3011

BENSON, JOHN FISHER RHU /IM AC
318 WESTWOOD AVENUE 47 55 55
HIGH POINT 27262
U OF MARYLAND 919 882-2515

BICKLEY, SAMUEL TAYLOR FP AC
P. O. BOX 5168 61 61 63
HIGH POINT 27262
BOWMAN GRAY 919 885-2118

BIESECKER, GARY LEROY GS AC
624 QUAKER LN., STE. C-101 68 68 77
HIGH POINT 27262
U OF NEBRASKA 919 883-1348

BLACK, KYLE E., JR. ORS AC
624 QUAKER LANE, STE. D-209 78 78 86
HIGH POINT 27262
BOWMAN GRAY 919 841-6262

BLAYLOCK, RUSSELL LANE NS AC
P. O. BOX 5388 71 71 78
HIGH POINT 27262
LA STATE U 919 889-4810

BRIGMAN, PAUL HAMER EM AC
2807 EARLHAM PLACE 54 54 55
HIGH POINT 27263
U OF NC 919 431-3875

BROOKS, RALPH ELBERT, JR. U AC
624 QUAKER LANE, SUITE D-100 55 55 62
HIGH POINT 27262
U OF NC 919 886-5151

40. HIGH POINT MEDICAL SOCIETY (Continued)

BURAPAVONG, THAVIJ DAVID PS /GS AC
416 GATEWOOD AVENUE 69 74 77
HIGH POINT 27260
CHIENGMAI U 919 882-2531

BUSBY, JULIAN GOODE, JR. OBG AC
307 N. LINDSAY ST. 70 75 77
HIGH POINT 27260
U OF NC 919 885-0149

CANIPE, TOMMIE LEE GS /TS AC
P. O. BOX 5229 59 59 67
HIGH POINT 27262
BOWMAN GRAY 919 887-3164

CARR, RAYMOND EDWARD GS /TS AC
624 QUAKER LN., STE. C-101 62 73 75
HIGH POINT 27262
ALBANY MED COLL 919 883-1348

CHALFA, NICOLAI AN AC
P. O. BOX 1864 76 77 84
HIGH POINT 27261
U OF FLORIDA 919 882-2567

CHILES, NOAH HAMPTON IM AC
501 WESTWOOD AVENUE 44 48 56
HIGH POINT 27262
U OF LOUISVILLE 919 882-3911

CHUNG, ZUN SUB FP /EM AC
2926 S. MAIN STREET 65 75 76
HIGH POINT 27263
KOREA U 919 434-3118

CLOUTIER, MICHAEL R AC
1005 SHAMROCK RD. 73 74 85
HIGH POINT 27260
U OF LOUISVILLE 919 887-1926

COUGHLIN, PAUL WM. FITZHENRY U AC
624 QUAKER LANE, D-100 78 80 85
HIGH POINT 27262
U OF NC 919 886-5151

COX, RONNIE LEWIS /CD AC
624 QUAKER LANE 61 61 70
HIGH POINT 27262
DUKE 919 885-2111

CRAWFORD, ROBERT CECIL, JR. OBG AC
P. O. BOX 5543 65 65 74
HIGH POINT 27262
DUKE 919 889-5422

CROOM, ARTHUR BASCOM R L/RT
1311 ROBIN HOOD RD. 40 46 46
HIGH POINT 27260
MED COLL OF VA 919 882-6057

CROSS, ALMON RUFUS OBG L/RT
414 HILLCREST DRIVE 38 47 47
HIGH POINT 27262
DUKE 919 884-1236

CROSS, ROBERT VANDERVOORT GYN AC
P. O. BOX 5128 47 53 53
HIGH POINT 27262
U OF PITTSBURGH 919 887-3011

CROWELL, CHARLES CARLOS, III CD /IM AC
624 QUAKER LN., STE. 103-C 72 72 77
HIGH POINT 27262
BOWMAN GRAY 919 885-6168

CULLOM, JOSEPH WILLIAM GS AC
624 QUAKER LN., STE. 200-C 73 73 84
PO BOX 5229
HIGH POINT 27262
MED U OF SC 919 887-3164

DONALD, WILLIAM BLANTON, JR. OPH AC
624 QUAKER LANE, SUITE 202-C 52 52 56
HIGH POINT 27262
BOWMAN GRAY 919 884-2242

DOUGLASS, DONALD PERRY GS /TS AC
401 WESTWOOD AVENUE 53 53 61
HIGH POINT 27262
BOWMAN GRAY 919 887-3164

ERDIN, ROBERT ALEXANDER, JR. CD /IM AC
624 QUAKER LN., STE. 103-C 73 75 78
HIGH POINT 27262
MED COLL OF GA 919 885-6168

ERRICO, JAMES MELTON OPH AC
100 WESTWOOD AVENUE 64 64 72
HIGH POINT 27262
JOHNS HOPKINS 919 889-2323

FARABOW, WILLIAM SIDNEY OBG AC
400 N. ELM ST. 63 63 71
HIGH POINT 27260
EMORY U 919 889-4353

FARRINGTON, JOHN KIRBY OBG AC
307 N. LINDSAY ST. 57 57 65
HIGH POINT 27262
U OF NC 919 885-0149

FINCHER, ROBERT CHARLES, JR. P /PH L/RT
107 SPENCER STREET 44 48 55
HIGH POINT 27260
MED U OF SC 919 889-5511

FITZPATRICK, HUGH, III EM AC
117 S. MAIN ST. 50 51 52
ASHEBORO 27203
MED COLL OF VA 919 454-1166

FLYTHE, WILLIAM HENRY IM L
1131 GATEHOUSE ROAD 33 33 37
HIGH POINT 27260
VANDERBILT U 919 882-8933

FORD, C. STEPHEN N AC
105 BRANTLEY CIRCLE 79 83 87
HIGH POINT 27262
MED U OF SC 919 841-4233

FORTNEY, AUSTIN POWELL IM AC
P. O. BOX 579 46 51 52
JAMESTOWN 27282
EMORY U 919 454-3151

FRANK, JEFFREY H. N AC
1414 LYNDHURST DR. 81 83 87
HIGH POINT 27260
U OF KENTUCKY 919 889-8877

FULTON, JAMES WALKER OBG AC
400 N. ELM ST. 57 57 63
HIGH POINT 27260
DUKE 919 889-4353

GALLEMORE, WARREN GHOLSON IM AC
P. O. BOX 5904 75 76 79
HIGH POINT 27262
MED COLL OF GA 919 889-1191

GATLIN, KEITH A., JR. CD AC
624 QUAKER LN., STE. 103-C 79 80 86
HIGH POINT 27262
MED U OF SC 919 885-6168

GEDDIE, KENNETH BAXTER PD L/RT
PO BOX 2007 21 21 23
HIGH POINT 27261
JEFFERSON 919 882-4171

GENIEC, PAUL OTO /PS AC
P. O. BOX 5666 64 64 70
HIGH POINT 27262
U OF UTAH 919 885-0071

GILL, KENNETH ARNOLD, JR. D /DMP AC
624 QUAKER LN,STE,302,BLDG B 58 58 69
HIGH POINT 27262
MED COLL OF VA 919 887-3195

GRAEUB, CHARLES M., JR. EM AC
2021 LA DORA DR. 81 82 87
HIGH POINT 27260
MED COLL OF GA 919 884-6009

GRAY, CYRUS LEIGHTON R L
P. O. BOX 5007 37 37 40
HIGH POINT 27262
DUKE 919 887-1955

GREENE, ELEANOR ELAINE W. OBG AC
701 SHAMROCK RD. 81 86 87
HIGH POINT 27260
U OF NC 919 885-0149

HARRELL, WADE WHITLEY OPH AC
319 WESTWOOD AVENUE 59 59 64
HIGH POINT 27262
U OF NC 919 883-7867

HARRISS, WILLIAM FRED R AC
P. O. BOX 5007 66 66 74
HIGH POINT 27262
BOWMAN GRAY 919 884-6037

HAWORTH, CHESTER CARL, JR. N /IM AC
624 QUAKER LANE, SUITE 211-B 63 63 71
HIGH POINT 27262
DUKE 919 889-1496

HIGGINS, LLOYD MALCOLM PTH AC
221 HILLCREST DRIVE 55 55 72
HIGH POINT 27262
LA STATE U 919 883-7047

HILL, EDWARD GRAY, JR. N /EM AC
606 N. ELM ST. 80 81 80
HIGH POINT 27262
BOWMAN GRAY 919 889-8877

HOFFMAN, CARL MAURICE OBG AC
307 N. LINDSAY STREET 67 68 7
HIGH POINT 27262
U OF MIAMI 919 885-014

HOWELL, HARRY SLADE, JR. GS /CDS AC
624 QUAKER LANE, SUITE 116-B 68 68 7
HIGH POINT 27262
BOWMAN GRAY 919 886-455

HUNT, WILLIAM JACK IM
720 FERNDALE BLVD. 43 43 4
HIGH POINT 27260
U OF MARYLAND 919 882-981

HUSSEY, MICHAEL BRUSH NS AC
P. O. BOX 5388 61 61 7
HIGH POINT 27262
U OF VIRGINIA 919 889-324

INGRAM, CHARLES HAL GS L/R
229 CASCADE DR. 43 43 4
HIGH POINT 27260
U OF MARYLAND 919 886-455

JARRETT, THOMAS EDWARD IM AC
624 QUAKER LANE, #205A 78 78 8
HIGH POINT 27262
MED U OF SC 919 885-211

JENNINGS, ROYAL GREEN D AC
624 QUAKER LANE, SUITE 302-B 45 46 5
HIGH POINT 27262
BOWMAN GRAY 919 887-319

JOHNSON, JAMES ALFRED NS AC
606 N. ELM ST. 58 58 6
HIGH POINT 27262
DUKE 919 889-887

JOYCE, GEORGE WILLIAM IM /NEP AC
624 QUAKER LANE, SUITE 213-B 60 60 6
HIGH POINT 27262
BOWMAN GRAY 919 883-413

KEEVER, RICHARD ALAN OTO AC
624 QUAKER LN., STE. 301-D 69 69 7
HIGH POINT 27262
U OF NC 919 883-136

LAUER, THOMAS EUGENE P AC
624 QUAKER LN., STE. A-111 77 79 8
HIGH POINT 27262
U OF NC 919 889-412

LEWIS, CLIFFORD WHITFIELD OBG /OBS L
322 WOODROW AVENUE 30 30 3
HIGH POINT 27262
MED COLL OF VA 919 882-283

LYNCH, JOHN FRANKLIN, JR. PD L/R
905 ARBORDALE DR. 44 44 4
HIGH POINT 27260
JEFFERSON 919 886-404

MARKHAM, ROBERT WADE D AC
624 QUAKER LANE, SUITE 302-B 63 63 7
HIGH POINT 27262
DUKE 919 887-319

MARLOWE, JAMES MANNING ORS AC
624 QUAKER LANE, SUITE D-200 60 60 6
HIGH POINT 27262
U OF NC 919 841-626

MARTIN, WELLS, III DR AC
HIGH POINT MEM.HOSP.,-RAD. 76 79 8
HIGH POINT 27260
U OF CINCINNATI 919 887-255

MCFALLS, VERNON WENDELL PD AC
624 QUAKER LANE, SUITE 100-A 58 58 61
HIGH POINT 27262
U OF NC 919 882-418

MICHAL, WILLIAM NORWOOD, JR. PD AC
624 QUAKER LANE, SUITE 200-A 60 60 67
HIGH POINT 27262
U OF NC

MILLER, IRA BEN IM AC
110 CHURCH STREET 46 46 51
HIGH POINT 27260
BOWMAN GRAY 919 884-5888

NEAVE, VICTORIA C.D. NS AC
606 N. ELM ST. 80 81 87
HIGH POINT 27262
MED COLL OF VA 919 889-8877

NEWELL, ROBERT B. GS /EM L/RT
EMERALD ISLE, RT. 1, BOX 949-E 36 36 57
MOREHEAD CITY 28557
ST U OF NY-BUFF 919 354-3152

40. HIGH POINT MEDICAL SOCIETY (Continued)

)AH, HUGH BRYAN ORS /HS AC
624 QUAKER LANE, SUITE D-200 66 66 76
HIGH POINT 27262
BOWMAN GRAY 919 841-6262

ARKS, WILLIAM CRAIG IM L
624 QUAKER LANE, SUITE 207-A 38 38 40
HIGH POINT 27262
MED U OF SC 919 841-4233

CKLESIMER, FRED LEON OTO AC
624 QUAKER LN. STE. 301-D 66 66 75
HIGH POINT 27262
BOWMAN GRAY 919 883-1366

LOWDEN, JAMES FRANCIS ON /HEM AC
P. O. BOX 5904 73 73 79
HIGH POINT 27262
MED U OF SC 919 841-2114

)LLOCK, NELSON EARL IM AC
P. O. BOX 5904 75 77 79
HIGH POINT 27262
MED COLL OF GA 919 841-2114

)BERSON, VIRGIL ODELL, III AN AC
502 LINDSAY ST. 71 71 77
PO BOX 2324
HIGH POINT 27261
U OF NC 919 882-2567

)BINSON, JAMES THOMAS, JR. FP AC
1124 E. LEXINGTON AVENUE 55 57 58
HIGH POINT 27262
MED COLL OF VA 919 882-1606

)SS, DAVID B. ORS AC
624 QUAKER LN. STE. D-200 80 81 86
HIGH POINT 27262
VANDERBILT U 919 841-6262

)STAND, ROBERT ALTON IM /PUD AC
624 QUAKER LANE, STE. B211 72 74 78
HIGH POINT 27262
TUFTS U 919 889-1496

ROWE, CHARLES EUGENE, JR. U AC
624 QUAKER LANE, SUITE D-100 65 65 72
HIGH POINT 27262
U OF VIRGINIA 919 886-5151

SHULL, KENNETH CASTLES GS /CDS AC
P. O. BOX 5229 73 74 79
HIGH POINT 27262
MED U OF SC 919 887-3164

SLATE, MARVIN LONGWORTH FP L/RT
807 PARKWOOD CIRCLE 31 31 34
HIGH POINT 27260
U OF MARYLAND 919 883-9756

SMITH, LAFAYETTE LYLE IM AC
624 QUAKER LANE, SUITE 213-B 72 73 77
HIGH POINT 27262
MED U OF SC 919 883-4131

STONE, GRADY MITCHELL IM AC
624 QUAKER LANE 75 77 80
HIGH POINT 27262
U OF NC 919 883-4131

TERRELL, SARA ELDORA HAWORTH IM AC
624 QUAKER LN. STE. 207-C 53 53 57
HIGH POINT 27262
DUKE 919 841-4233

TERRELL, THOMAS EUGENE IM AC
624 QUAKER LN., STE. 207-C 53 53 57
HIGH POINT 27262
DUKE 919 841-4233

TESTER, RICHARD DEAN R /NM AC
P. O. BOX 5007 58 61 64
HIGH POINT 27262
MED COLL OF VA 919 883-6716

TYSON, WOODROW WILSON IM /CD L
1114 FERNDALE DRIVE 35 35 38
HIGH POINT 27260
MED COLL OF VA 919 882-6130

UHLIN, STEPHEN RICHARD D /IM AC
624 QUAKER LANE, 302-B 70 70 78
HIGH POINT 27262
OHIO STATE U 919 885-8333

VELAT, CLARENCE ANTHONY PTH /CLP AC
406 CASCADE CT. 46 62 63
HIGH POINT 27260
ST LOUIS U 919 884-6065

WARBURTON, KEELING ALFRED OBG AC
P. O. BOX 5128 63 63 70
HIGH POINT 27262
U OF MICHIGAN 919 887-3011

WARBURTON, MARK JOSEPH ORS AC
624 QUAKER LANE, SUITE D-200 76 76 82
HIGH POINT 27262
BOWMAN GRAY 919 885-5095

WELLER, EDWARD BROOKS ORS AC
624-D 200 QUAKER LANE 79 84 85
HIGH POINT 27262
U OF LOUISVILLE 919 885-5095

WIDNER, LARRY ALLEN R AC
1310 KENSINGTON DR. 73 73 85
HIGH POINT 27260
U OF VIRGINIA 919 887-1926

ZARITZKY, DAVID RON R AC
P. O. BOX 6146 74 75 84
HIGH POINT 27262
U OF FLORIDA 919 887-2551

41. GREENSBORO SOCIETY OF MEDICINE

FFICERS—**President:** John A. Lusk, III, M.D., 1007 Professional Village, Greensboro 27401 (919 272-2141)
Secretary: William H. Gamble, M.D., 920 Cherry St., Greensboro 27401 (919 273-7900)
Executive Director: Mr. James H. Busick, 612 Pasteur Dr., Ste. 404, Greensboro 27403 (919 854-1563)

BRAHAMS, STUART JOEL GYN AC
200 E. NORTHWOOD ST., STE. 216 57 64 65
GREENSBORO 27401
U OF MARYLAND 919 275-5391

BRAMS, MURRAY STANLEY GS AC
311 W. WENDOVER AVE. 65 66 72
GREENSBORO 27408
TEMPLE U 919 275-8415

CKERMAN, JAYNE A. IM /ADL AC
GOVE HEALTH CENTER 76 77 79
UNCG, GRAY DR.
GREENSBORO 27412
U OF VERMONT 919 334-5340

DELMAN, JAMES U. N AC
1910 N. CHURCH STREET 67 68 74
GREENSBORO 27405
NORTHWESTERN U 919 273-2511

LLGOOD, JOHN WILLIAM, JR. IM L/RT
1503 PEBBLE DR. 38 46 46
GREENSBORO 27410
EMORY U 919 292-2196

LTHEIMER, MICHAEL D. END /IM AC
1022 PROFESSIONAL VILL. 81 82 86
GREENSBORO 27401
U OF IOWA 919 378-1074

MES, RICHARD HAIGHT NS L/RT
2316 PRINCESS ANN ST. 41 48 49
GREENSBORO 27408
DUKE 919 288-0421

PLINGTON, JAMES PAGE ORS AC
315 W. WENDOVER AVENUE 66 66 76
GREENSBORO 27408
JOHNS HOPKINS 919 275-0724

RKIN, ROY MARC GS AC
721 GREEN VALLEY RD. 69 74 77
GREENSBORO 27408
NEW YORK MED COL 919 275-2889

ARRINGTON, JOHN HODGE, III PTH /DMP AC
1608 VALLEYMEDE 67 67 78
GREENSBORO 27410
TULANE U 919 379-4073

BADAWI, RAOUF FAHMY P AC
522 N. ELAM AVE., STE. 203 63 73 81
GREENSBORO 27403
CAIRO U 919 854-2391

BAIRD, HAYNES WALLACE PTH /CLP AC
1200 N. ELM STREET 69 69 74
GREENSBORO 27401
U OF NC 919 379-4074

BALLEN, PATRICK LASELVE GS AC
721 GREEN VALLEY RD. 75 76 82
GREENSBORO 27408
CORNELL U 919 378-1583

BARBEE, LEWIS ELISHA GP AC
4928 SYLVANGLADE ROAD 63 64 79
MCLEANSVILLE 27301
HOWARD U 919 375-3434

†BAREFOOT, SHERWOOD W. D L
3107 MADISON AVE. 38 46 47
DECEASED - 4-20-87
GREENSBORO 27403
DUKE 919 299-8629

BARKER, JULIAN GYN AC
408 PARKWAY 57 60 60
GREENSBORO 27401
ST U OF NY-BUFF 919 378-1110

BARKLEY, KARL LEE OBG AC
1305 W. WENDOVER AVENUE 62 62 67
GREENSBORO 27408
U OF NC 919 273-2835

BARRY, PAUL DOUGLAS DR /NM AC
#2 WALDRON COURT 76 76 81
GREENSBORO 27408
U OF NC 919 288-9346

BAXLEY, MARY JOHN IM /PD AC
1008 PROFESSIONAL VILLAGE 82 83 87
GREENSBORO 27401
U OF NC 919 299-0000

BEAVERS, CHARLES LEE AN L/RT
100 MEADOWBROOK TERRACE 38 38 46
GREENSBORO 27408
U OF PENN 919 273-1066

BEAVERS, JAMES WALLACE GP L/RT
2206 W. MARKET ST. 30 30 35
GREENSBORO 27403
U OF PENN 919 272-3487

BENBOW, EDWARD PERRY, JR. PD L
PO BOX 339 40 43 49
ORIENTAL 28571
DUKE 919 299-7057

BERRY, FRANCIS XAVIER OBG L/RT
1208 COLONIAL AVE. 42 53 53
GREENSBORO 27408
GEORGETOWN U 919 272-2155

BERTLING, MARION HENRY GYN L/RT
2312 PRINCESS ANN STREET 35 35 48
GREENSBORO 27408
CASE WESTERN RES 919 288-6344

BERTRAND, MARGARET LINS DR AC
2214 PINECREST 74 74 78
GREENSBORO 27403
BAYLOR 919 379-0941

BERTRAND, SCOTT ALAN AN AC
PO BOX 10373 73 74 77
GREENSBORO 27404
BAYLOR 919 373-0372

BEST, DAVID CHARLES PS /HS AC
600 PASTEUR DR. 77 80 83
GREENSBORO 27403
BOWMAN GRAY 919 852-0300

41. GREENSBORO SOCIETY OF MEDICINE (Continued)

BEST, JAMES ERNEST PD /ADL L/RT
600 PASTEUR DRIVE 45 45 48
GREENSBORO 27403
BOWMAN GRAY 919 299-8046

BIRD, IGNACIO R L/RT
207 HOMEWOOD AVENUE 30 30 47
GREENSBORO 27403
YALE 919 299-8319

BLAND, VEITA JOYCE FP AC
1021 E. WENDOVER AVE. STE. 202 78 78 86
MEDICAL ARTS BLDG.
GREENSBORO 27405
TEMPLE U 919 373-1557

BLIEVERNICHT, STEPHEN WALDO GS AC
1014 PROFESSIONAL VILLAGE 69 71 83
GREENSBORO 27401
EMORY U 919 373-1078

BLOMGREN, PETER FREDERICK FP AC
317 W. WENDOVER AVE. 74 74 85
GREENSBORO 27408
INDIANA U 919 373-1794

BLOMQUIST, GUSTAV ARTHUR, JR. PS AC
721 GREEN VALLEY RD., STE. 303 73 74 82
GREENSBORO 27408
VANDERBILT U 919 275-1111

BODNER, WILLIAM RAYMOND, JR. P AC
606 WALTER REED DR. 63 72 73
GREENSBORO 27403
ST LOUIS U 919 299-0107

BOER, HENRY R. NPM /PD AC
3036 LAKE FOREST DR. 68 71 84
GREENSBORO 27408
U OF OTTAWA 919 282-2360

BOETTE,RICHARD WALTERS PD AC
515 COLLEGE RD. STE. #11 66 66 84
GREENSBORO 27410
MED U OF SC 919 852-9630

BONNER, MERLE DUMONT PUD /A L/RT
MEADOWBROOK TERRACE 30 31 34
1915 BOULEVARD ST.
GREENSBORO 27407
U OF MARYLAND 919 854-0947

BOTERO, ERNESTO MIGUEL NS AC
200 E. NORTHWOOD ST. STE. 504 73 73 85
GREENSBORO 27401
U OF CARTAGENA 919 272-4578

BOWMAN, WILLIAM EDMUND, JR. GS /CDS AC
PO BOX 10037 74 79 82
1317 N. ELM ST.
GREENSBORO 27404
U OF NC 919 275-9554

BRACKBILL, THOMAS ANDREW CD /CD AC
1011 PROFESSIONAL VILLAGE 68 69 75
GREENSBORO 27401
COLUMBIA U 919 272-6133

BRADLEY, HAROLD JOHN, JR. U AC
721 GREEN VALLEY RD. 57 57 64
GREENSBORO 27408
U OF NC 919 378-9176

BRADLEY, HAROLD JOHN, SR. U L
721 GREEN VALLEY RD. 32 32 36
GREENSBORO 27408
U OF IOWA 919 274-7624

BRANTLEY, JULIAN THWEATT OBG AC
721 GREEN VALLEY RD. 44 44 49
GREENSBORO 27408
HARVARD 919 273-4325

BRATTON, TERESA SUE PDA /A AC
1021 E. WENDOVER, STE. 302 74 76 82
GREENSBORO 27405
VANDERBILT U 919 275-1318

BRETT, CHARLES BURDEN PD AC
1307 W. WENDOVER AVENUE 71 71 80
GREENSBORO 27408
U OF NC 919 272-5189

BREWER, JAMES CHESTER, JR. FP AC
P. O. BOX 8248 59 59 61
GREENSBORO 27419
DUKE 919 852-7618

BREWINGTON, THOMAS ELMER, JR. OPH AC
P. O. BOX 20346 69 70 77
GREENSBORO 27420
MEHARRY MED COLL 919 272-5628

BRODIE, BRUCE ROGERS CD /IM AC
721 GREEN VALLEY RD. 70 73 79
GREENSBORO 27408
WASHINGTON U 919 378-0774

BROOKS, JAMES TAYLOR IM AC
1100 N. ELM STREET 43 43 48
GREENSBORO 27401
U OF PENN 919 273-8658

BROOKS, JEAN BAILEY GYN AC
1100 N. ELM STREET 44 44 48
GREENSBORO 27401
BOWMAN GRAY 919 273-8658

BROWN, FRANK REID IM L/RT
1103 COUNTRY CLUB DRIVE 38 46 46
GREENSBORO 27408
VANDERBILT U 919 272-5048

BROWN, JAY HOWARD JOEL AN AC
MAINE COAST MEM. HOSPITAL 67 70 75
ELLSWORTH, ME 04605
BOSTON U

BROWN, ROBERT CALVIN CLP /PTH AC
801 GREEN VALLEY RD. 59 59 70
GREENSBORO 27408
U OF NC 919 378-2809

BRUCE, JAMES CRAWFORD IM /CD AC
1036 PROFESSIONAL VILLAGE 51 55 56
GREENSBORO 27401
GEO WASHINGTON U 919 378-9180

BRUMBACK, GEORGE FRANKLIN OPH AC
1105 MONTPELIER 59 64 68
GREENSBORO 27401
U OF TENNESSEE 919 274-4626

BRYAN, EDWIN LANCASTER IM /CD AC
200 E. NORTHWOOD STREET 61 61 68
GREENSBORO 27401
U OF PENN 919 274-7609

BUIE, RODERICK MARK, JR. IM /CD L/RT
101-F N. PARK DR. 44 44 50
GREENSBORO 27401
BOWMAN GRAY

BUMGARNER, JOHN REED CD /CD L/RT
221 MISTLETOE DR. 39 39 40
GREENSBORO 27403
MED COLL OF VA 919 373-1123

BURKHART, VERNON ANDERSON OM /IM AC
2700 W. MARKET ST. 50 51 76
GREENSBORO 27403
U OF TENNESSEE 919 379-6961

BURNEY, DONALD PATRICK CDS /TS AC
1317 N. ELM ST., STE. 1 70 70 80
GREENSBORO 27401
WASHINGTON U 919 373-8245

CABLE, THOMAS ALLEN FP AC
206 FISHER PARK CIRCLE 76 79 82
GREENSBORO 27401
U OF FLORIDA 919 379-4132

CAMPANO, MANUEL OSWALDO PTH AC
P. O. BOX X-3 51 63 64
GREENSBORO 27402
U OF HABANA 919 854-6462

CARANDANG, NAPOLEON VELUZ IM /OM AC
AT&T TECHNOLOGIES, INC. 62 70 78
P. O. BOX 25000
GREENSBORO 27420
U OF PHILIPPINES 919 279-3627

CARDWELL, WILLARD IM /CD L/RT
2312 LAFAYETTE 32 36 37
GREENSBORO 27408
MED COLL OF VA 919 288-4740

CARTER, PHILIPS JOHN ORS AC
315 W. WENDOVER AVENUE 62 62 72
GREENSBORO 27408
TULANE U 919 275-0724

CASSIANO, COLEY JAMES FP AC
1016-A PROFESSIONAL VILLAGE 75 76 87
GREENSBORO 27401
ST U OF NY-BUFF 919 379-1156

CHARLTON, JOHN DAVID A L
1301 W. WENDOVER AVENUE 42 53 55
GREENSBORO 27408
U OF W ONTARIO 919 275-0441

CHASE, ROBERT EUGENE AN AC
1816 PEMBROKE RD., STE. #2 67 71 76
GREENSBORO 27408
M C OF WISCONSIN 919 272-3720

CHRISTIAN, BERNIE JOSEPH GP /OM AC
948 WALKER AVENUE 51 51 5
GREENSBORO 27403
BOWMAN GRAY 919 275-766

CLARK, PRESTON SAMUEL END /IM AC
MERRITT MEDICAL PLAZA 73 74 8
1511 WESTOVER TERR., STE. 101
GREENSBORO 27408
NEW YORK U 919 373-031

CLONINGER, KENNETH LEE, JR. NS AC
200 E. NORTHWOOD ST., STE. 504 61 61 6
GREENSBORO 27401
U OF MARYLAND 919 272-457

CLUTTS, GEORGE ROBERT GS /TS AC
344 N. ELM STREET 48 48 4
GREENSBORO 27401
NORTHWESTERN U 919 275-955

COGGESHALL, ALLAN BANCROFT GS L/R
109 BEVERLY PLACE 40 49 5
GREENSBORO 27403
RUSH MED COLL 919 299-719

†CONE, DONALD FRANK TR /DR AC
1604 ST. ANDREWS ROAD 59 61 6
GREENSBORO 27408
JOHNS HOPKINS 919 379-414

CONNELLY, JERRY HUBBARD GP /GPM AC
212-C W. WENDOVER AVE. 63 64 8
GREENSBORO 27401
INDIANA U 919 275-382

COOPER, ARMAH JAMALE P AC
604-B PASTEUR DR. 81 82 8
GREENSBORO 27403
MEHARRY MED COLL 919 855-723

COURTS, ANDREW JOHNSON CHP /P AC
1024 PROFESSIONAL VILLAGE 58 58 6
GREENSBORO 27401
U OF NC 919 272-426

CREWS, DAVID ALLEN AN AC
3106 MADISON AVE. 81 82 8
GREENSBORO 27403
U OF NC 919 299-634

CROSS, ALRED CHARLES, JR. OM /GP AC
AT&T TECHNOLOGIES, INC. 53 53 7
P. O. BOX 25000
GREENSBORO 27420
U OF ARKANSAS 919 279-710

CROSSLEY, JAMES JOHN OTO /A AC
100 E. NORTHWOOD ST. 67 69 7
GREENSBORO 27401
CORNELL U 919 274-544

DAVIS, PHILIP BIBB GS L
1125 GATEHOUSE RD. 26 26 2
HIGH POINT 27260
JEFFERSON 305 276-677

DAVIS, ROBERT NICHOLAS D AC
600 WALTER REED DRIVE 62 62 6
GREENSBORO 27403
DUKE 919 294-655

DAVIS, TIMOTHY EUGENE GS /CRS AC
1317 N. ELM ST., STE. #5 71 71 7
GREENSBORO 27401
U OF ARKANSAS 919 273-869

DEATON, PHILIP CARL NS AC
200 E. NORTHWOOD ST. STE. 204 66 66 7
GREENSBORO 27401
U OF NC 919 379-007

DEBECK, THOMAS WADE AC
1018 N. ELM ST. 64 64 8
GREENSBORO 27401
U OF MARYLAND 919 272-848

DETERDING, JAMES LEROY NEP /IM AC
208 W. WENDOVER AVENUE 79 79 8
GREENSBORO 27401
U OF NEBRASKA 919 379-970

DICKSTEIN, SHERRY ANNE OBG AC
1305 W. WENDOVER AVE. 78 82 8
GREENSBORO 27408
U OF VERMONT 919 275-539

DIGBY, DONALD JOE OPH AC
3312 BATTLEGROUND AVE. 76 78 8
GREENSBORO 27410
MED COLL OF GA 919 282-500

41. GREENSBORO SOCIETY OF MEDICINE (Continued)

ILWORTH, JOHN HERBERT ORS /HS AC
1505 WESTOVER TERR. 58 58 70
GREENSBORO 27408
U OF VIRGINIA 919 275-0927

IXON, SEWELL HINTON, JR. CDS /TS AC
1317 N. ELM ST., STE. 1 64 64 73
GREENSBORO 27401
EMORY U 919 373-8245

OOLITTLE, ROBERT PRINCE ADL /IM AC
UNC-G STUDENT HEALTH CENTER 74 75 82
GREENSBORO 27412
U OF ALABAMA 919 334-5340

OYLE, OWEN WILLIAM DR AC
1013 PROFESSIONAL VILLAGE 47 54 55
GREENSBORO 27401
YALE 919 275-6481

REILING, DALE T. FP AC
522 N. ELAM AVENUE 79 80 83
GREENSBORO 27403
MED COLL OF VA 919 852-3800

UNCAN, DALE LEMOIN R /ON AC
604 WALTER REED DR. 79 82 86
GREENSBORO 27403
MED U OF SC 919 294-2670

UNN, RICHARD BERRY GYN L
P. O. BOX 190 33 36 37
CLIMAX 27233
MCGILL U 919 674-9745

YE, DAVID GODDARD ORS AC
530 N. ELAM AVE. 68 68 85
GREENSBORO 27403
MED COLL OF GA 919 292-8824

DWARDS, JAMES L., JR. IM /GE AC
1100 OLIVE STREET 81 82 86
GREENSBORO 27401
MED U OF SC 919 378-9906

PES, CHARLES RICHARD OPH AC
3312 BATTLEGROUND AVE. 68 68 75
GREENSBORO 27410
U OF VIRGINIA 919 282-5000

PPLE, KENNETH HALL P RT
2311 LAFAYETTE AVE. 52 52 60
GREENSBORO 27408
U OF VIRGINIA 919 288-6215

ARLEY, ROBERT HUGH GS AC
311 W. WENDOVER AVE. 56 64 65
GREENSBORO 27408
ST LOUIS U 919 275-8415

IELDS, KARL BERTRAND FP AC
1411 GARLAND DR. 76 77 86
GREENSBORO 27408
U OF KENTUCKY 919 379-4133

ISCHER, GARY JAY DR AC
P. O. BOX 13005 72 72 78
GREENSBORO 27405
U OF MISSOURI 919 379-4140

ISHER, OTIS NORWOOD R AC
P. O. BOX 13005 59 59 69
GREENSBORO 27405
U OF NC 919 379-4360

OLLO, PAIGE BILL PD AC
1209 MAGNOLIA STREET 47 54 54
GREENSBORO 27401
HARVARD 919 273-2879

ORE, STEVEN RONALD OBG AC
200 E. NORTHWOOD ST. STE. 216 68 68 79
GREENSBORO 27401
BOWMAN GRAY 919 275-5391

OREMAN, ROBERT HUGH FP AC
4104 REDWINE DRIVE 73 74 81
GREENSBORO 27410
U OF CINCINNATI 919 294-6190

ORREST, WILLIAM WOMBLE PTH AC
WESLEY LONG HOSPITAL 48 48 57
P. O. DRAWER X-3
GREENSBORO 27402
HARVARD 919 299-6815

ORTUNE, BENJAMIN FLETCHER AN L/RT
906 W. CORNWALLIS DRIVE 41 41 47
GREENSBORO 27408
JEFFERSON 919 272-7755

OX, RICHARD FRANKLIN NEP /IM AC
208 W. WENDOVER AVE. 75 76 84
GREENSBORO 27401
U OF NC 919 379-9708

FRASER, HUGH ERSKINE, JR. D AC
1030 PROFESSIONAL VILLAGE 56 62 62
GREENSBORO 27401
MED COLL OF VA 919 373-1383

FREDERICK, CHARLES E. AN AC
612 WAYCROSS DR. 81 82 87
GREENSBORO 27410
U OF IOWA 919 299-6343

GAMBLE, WILLIAM HEDRICK CD /IM AC
920 CHERRY ST. 76 77 85
GREENSBORO 27401
U OF NC 919 273-7900

GARBER, RONALD LEWIS NEP /IM AC
208 W. WENDOVER AVENUE 67 67 75
GREENSBORO 27401
MED U OF SC 919 379-9708

GARRARD, ROBERT LEMLEY P /N L/RT
1000 RIDGECREST DR. 32 40 41
GREENSBORO 27410
HARVARD 919 292-0175

GARRETT, NORMAN HESSON, JR. IM /END AC
1038 PROFESSIONAL VILLAGE 50 52 54
GREENSBORO 27401
DUKE 919 378-9131

GARVEY, ALFRED HAMILTON U AC
200 E. NORTHWOOD ST., STE. 302 54 54 61
GREENSBORO 27401
BOWMAN GRAY 919 275-6115

GAY, ROBERT MILTON PTH /CLP AC
1200 N. ELM STREET 63 63 72
GREENSBORO 27401
TULANE U 919 379-4074

GEGICK, CHARLES GEORGE END /IM AC
1022 PROFESSIONAL VILLAGE 69 70 76
GREENSBORO 27401
LOYOLA U 919 378-1143

GILMORE, BROOKS WEBSTER IM AC
342 N. ELM STREET 56 56 61
GREENSBORO 27401
U OF PENN 919 274-6373

GIOFFRE, RONALD ANTHONY ORS AC
315 W. WENDOVER AVENUE 65 79 80
GREENSBORO 27408
M C OF WISCONSIN 919 275-0724

GOTTSEGEN, DANIEL LEO OBG AC
200 E. NORTHWOOD ST., STE. 216 69 70 79
GREENSBORO 27401
TUFTS U 919 275-5391

GREEN, ARTHUR GERRISH, III IM /FP AC
1511 WESTOVER TERRACE 73 74 74
GREENSBORO 27408
TULANE U 919 373-1184

GREEN, EDWIN JAY IM AC
1317 N. ELM ST. STE. #2 74 75 79
GREENSBORO 27401
U OF TENNESSEE 919 373-1676

GRIER, RAYMOND EDWARD AN AC
4406 WILD OAK LN. 76 78 85
GREENSBORO 27406
YALE 919 275-9741

GROAT, RICHARD ARNOLD PTH AC
1321 N. ELM STREET 52 52 55
GREENSBORO 27401
BOWMAN GRAY 919 274-9005

GROAT, ROBERT LANIER OPH AC
1317 N. ELM ST., STE. #4 70 74 75
GREENSBORO 27401
HARVARD 919 378-1442

GROVE, DAVID DWIGHT IM AC
1511 WESTOVER TERRACE 70 80 86
GREENSBORO 27408
U OF CHICAGO 919 373-1184

GUEST, CHRIS WARREN IM /GP AC
102 POMONA DRIVE 74 75 78
GREENSBORO 27407
U OF OKLAHOMA 919 299-0000

HALE, WAYNE A. FP AC
1125 N. CHURCH ST. 74 75 87
GREENSBORO 27401
U OF PITTSBURGH 919 379-3582

HALL, JOHN HOWLAND D AC
1100 OLIVE STREET 64 64 69
GREENSBORO 27401
DUKE 919 272-3152

HAMBRIGHT, RUFUS ROBERTS GYN AC
1309 N. ELM STREET 50 58 58
GREENSBORO 27401
DUKE 919 273-2563

HARKINS, PAUL DUANE ORS /HS AC
1505 WESTOVER TERR. 62 63 74
GREENSBORO 27408
U OF PITTSBURGH 919 275-0927

HARRILL, HENRY CLAY U /BLB L/RT
224 N. ELM ST. 33 33 40
GREENSBORO 27401
JOHNS HOPKINS 919 273-6294

HARRIS, CARLTON MCKENZIE IM AC
1026 PROFESSIONAL VILLAGE 47 48 54
GREENSBORO 27401
BOWMAN GRAY 919 272-7108

HARSHAW, CHARLES WILLIAM, JR. CD /IM AC
P. O. BOX 20928 71 73 78
GREENSBORO 27420
U OF NC 919 275-8581

HASSELL, CHARLES M., JR. PTH /DMP AC
1200 N. ELM STREET 58 58 64
GREENSBORO 27401
U OF PENN 919 379-4074

HATCHER, MARTIN ARMSTEAD N AC
1305 W. WENDOVER AVENUE 62 62 68
GREENSBORO 27408
DUKE 919 275-0779

HAYES, DONALD MICHAEL OM /IM AC
3330 W. FRIENDLY AVE. 54 54 80
GREENSBORO 27410
BOWMAN GRAY 919 379-4610

HAYGOOD, VANESSA PEARLINE OBG AC
914 MONTICELLO ST. 78 81 82
GREENSBORO 27410
HARVARD 919 292-7010

HELLER, JOEL HARVEY FP AC
603 DOLLY MADISON 73 74 81
GREENSBORO 27410
GEO WASHINGTON U 919 294-6190

HENDERSON, ANITA FP AC
104 E. NORTHWOOD ST. 78 81 82
GREENSBORO 27401
U OF VERMONT 919 275-6445

HENLEY, THOMAS FRANKLIN OBG AC
1309 N. ELM STREET 68 68 76
GREENSBORO 27401
DUKE 919 273-2563

HENSCHEN, GARY MAYES P /PYA AC
606 WALTER REED DR. 75 75 73
GREENSBORO 27403
U OF NC 919 299-0108

HENSEL, WILLIAM ARTHUR FP AC
1125 N. CHURCH ST. 78 78 84
GREENSBORO 27401
OHIO STATE U 919 379-4035

HENSON, JOSEPH BASCOM, JR. IM L/RT
1107 W. FRIENDLY AVENUE 45 46 51
GREENSBORO 27401
TEMPLE U 919 274-1567

HERRING, WILLIAM BENJAMIN IM /HEM AC
1200 N. ELM ST. 53 53 60
GREENSBORO 27401
BOWMAN GRAY 919 379-4062

HERTLE, XAVER FRANZ P AC
106 E. NORTHWOOD STREET 50 58 60
GREENSBORO 27401
LUDWIG MAXIMILLI 919 275-1614

HICKLING, WILLIAM HENRY CHN /N AC
1305 W. WENDOVER AVE. 78 81 85
GREENSBORO 27408
CORNELL U 919 275-0779

HOLDERNESS, HOWARD, JR. PS /GS AC
200 E. NORTHWOOD ST., STE. 400 65 65 81
GREENSBORO 27401
U OF NC 919 275-0919

HOLLANDER, EDWARD MARSHALL OPH AC
522 N. ELAM AVE. 62 62 71
GREENSBORO 27403
U OF WISCONSIN 919 854-0393

HOPPER, WILLIAM FALCON PUD /IM AC
721 GREEN VALLEY RD. 72 72 77
GREENSBORO 27408
WEST VA U 919 378-0774

41. GREENSBORO SOCIETY OF MEDICINE (Continued)

HOUSTON, FRANK MATT D AC
1030 PROFESSIONAL VILLAGE 64 69 71
GREENSBORO 27401
LA STATE U 919 373-1383

HUNT, LOUIS DAVID U AC
200 E. NORTHWOOD STREET 61 63 67
GREENSBORO 27401
YALE 919 275-6115

IMBUS, HAROLD ROGER OM AC
4605-E DUNDAS DRIVE 54 54 70
GREENSBORO 27407
U OF CINCINNATI 919 845-2303

INABNET, WILLIAM BARLOW OTO /PSF AC
100 E. NORTHWOOD STREET 58 64 64
GREENSBORO 27401
LA STATE U 919 275-0507

INGRAM, HAYWOOD MELTON GS AC
1317 N. ELM ST. STE. #5 78 80 85
P. O. BOX 10037
GREENSBORO 27404
BOWMAN GRAY 919 274-8444

INGRAM, ROBERT GREGORY IM AC
1100 OLIVE STREET 81 81 85
GREENSBORO 27401
U OF VIRGINIA 919 378-9906

JACKLIN, HAROLD NORMAN OPH AC
1014 N. ELM STREET 60 68 68
GREENSBORO 27401
SYRACUSE 919 274-2149

JACKSON, FREEMAN RANDOLPH R AC
107 ELMWOOD TERR. 77 78 83
GREENSBORO 27408
MED COLL OF GA 919 299-6815

JAROSAK, PETER JAMES PD AC
THE SAM RAVENEL CLINIC 72 72 77
1307 W. WENDOVER AVENUE
GREENSBORO 27408
U OF MINN 919 275-6335

JOHNSON, HARRY WALLACE GYN AC
104 W. NORTHWOOD STREET 55 55 63
GREENSBORO 27401
DUKE 919 378-1843

JONES, NORMAN NESBETH GP /GE AC
P. O. BOX 21886 47 49 76
GREENSBORO 27420
HOWARD U 919 274-0097

JOYNER, SAMUEL BALFOUR IM AC
200 E. NORTHWOOD STREET 55 65 65
GREENSBORO 27401
U OF NC 919 274-7609

KAPLAN, RICHARD DAVID OBG AC
408 PARKWAY DR. 75 76 80
GREENSBORO 27401
U OF PENN 919 378-1110

KARB, KENNETH SAMUEL ON /IM AC
1007 PROFESSIONAL VILLAGE 72 72 79
GREENSBORO 27401
U OF VIRGINIA 919 272-2141

KASIK, LEE AN AC
215 MANCHESTER PL. 80 81 83
GREENSBORO 27410
U OF IOWA 919 299-6343

KATZ, JEFFREY DAVID CD /IM AC
721 GREEN VALLEY RD. 76 77 83
GREENSBORO 27408
U OF PENN 919 378-0774

KIMBROUGH, HOUSTON MAGILL, JR. U /GS AC
1025 PROFESSIONAL VILLAGE 72 72 78
GREENSBORO 27401
U OF VIRGINIA 919 272-3962

KISER, JEFFERSON B., JR. N AC
1910 N. CHURCH ST. 71 72 77
GREENSBORO 27405
MED COLL OF VA 919 273-2511

KITCHENS, THOMAS RUSSELL PS AC
1507 WESTOVER TERR., STE. A 69 69 77
GREENSBORO 27408
MED COLL OF GA 919 373-0566

KOHUT, WALTER DENNIS END /IM AC
1511 WESTOVER TERRACE 73 82 84
GREENSBORO 27408
U OF CINCINNATI 919 373-1054

KRAUS, ERIC MARSHALL OTO /HNS AC
321 W. WENDOVER AVENUE 77 77 84
GREENSBORO 27408
U OF PITTSBURGH 919 379-9445

KREGE, JOHN WILSON ORS AC
1505 WESTOVER TERR. 66 66 77
GREENSBORO 27408
EMORY U 919 275-0927

KRINER, ARTHUR FREDERICK DR AC
P. O. BOX 13005 69 70 79
GREENSBORO 27405
HAHNEMANN 919 379-4141

KURTZMAN, HOWARD MARC CHP /P
604 GREEN VALLEY RD.,STE. 412 78 82 00
GREENSBORO 27408
MED U OF SC 919 855-0113

KUZMA, GARY ROBERT HS /ORS AC
409 E. PARKWAY DR. 75 75 82
GREENSBORO 27401
SYRACUSE 919 378-0811

KWIATKOWSKI, PETER FRANK IM AC
408-B PARKWAY DR. 76 76 83
GREENSBORO 27401
MED COLL OF GA 919 275-9804

LALONDE, JOHN CHARLES FP AC
104 E. NORTHWOOD ST. 75 75 80
GREENSBORO 27401
OHIO STATE U 919 275-6445

LANE, TIMOTHY WALTER ID /IM AC
1200 N. ELM ST. 71 78 85
GREENSBORO 27401
CORNELL U 919 379-4062

LAROCHE, LAURENT P. OM /GPM AC
3303 HENDERSON ROAD 51 51 79
GREENSBORO 27410
MED U OF SC 919 852-3770

LASHLEY, CURTIS RAY OM AC
JEFFERSON-PILOT LIFE INS.CO. 59 59 60
PO BOX 21008
GREENSBORO 27420
U OF NC 919 378-2193

LAVENDER, DICK REDMOND ORS AC
201 E. WENDOVER AVENUE 61 61 78
GREENSBORO 27401
BOWMAN GRAY 919 275-6318

LAWRENCE, ROBERT L. OTO /HNS AC
321 W.WENDOVER AVENUE 63 63 73
GREENSBORO 27408
VANDERBILT U 919 379-9445

LAWSON, JAMES DOUGLAS CDS /GS AC
1317 N. ELM ST., STE. 1 74 75 82
GREENSBORO 27401
U OF TENNESSEE 919 373-8245

LEBAUER, EDMUND JOSEPH CD AC
721 GREEN VALLEY RD. 60 60 68
GREENSBORO 27408
DUKE 919 378-0774

LEBAUER, EUGENE SHANER IM /A AC
721 GREEN VALLEY RD. 65 65 81
GREENSBORO 27408
DUKE

LEBAUER, MAURICE LEON GS L/RT
2023 ST. ANDREWS RD. 29 30 32
GREENSBORO 27408
U OF VIRGINIA 919 273-3258

LEBAUER, SAMUEL M. GE /IM AC
721 GREEN VALLEY RD. 67 67 81
GREENSBORO 27408
U OF VIRGINIA 919 378-0774

LEBAUER, SIDNEY FERRING IM L
721 GREEN VALLEY RD. 29 30 32
GREENSBORO 27408
U OF VIRGINIA 919 378-0774

LEE, J. GARY OTO /HNS AC
321 W. WENDOVER AVENUE 67 68 76
GREENSBORO 27408
U OF IOWA 919 379-9445

LEE, JAMES MOBLEY TS AC
1317 N. ELM ST., STE. 1 58 58 65
GREENSBORO 27401
DUKE 919 373-8245

LENNON, HERSHEL C. PTH L/RT
911 SUNSET DR. 31 31 41
GREENSBORO 27408
U OF PENN 919 272-5038

LEONARD, DONALD DEAN PTH A
1200 N. ELM STREET 56 63 6
GREENSBORO 27401
CASE WESTERN RES 919 379-40

LEONE, MICHAEL RALPH GS A
1317 N. ELM ST., STE. 5 67 68 7
PO BOX 10037
GREENSBORO 27404
JEFFERSON 919 274-84

LEPORE, RALPH GP A
4801 FOREST OAKS DR. 63 66 6
GREENSBORO 27406
NEW YORK MED COL 919 674-71

LEVITIN, PETER MARK IM /RHU A
1904 N. CHURCH STREET 69 70 7
GREENSBORO 27405
U OF PENN 919 274-32

LHOTSKY-BRODIE, DORA GE /IM A
721 GREEN VALLEY RD. 75 75 8
GREENSBORO 27408
DUKE 919 378-07

LINDER, DONALD EARLE AN A
5500 OLD BRANDT TRACE RD. 74 74 7
GREENSBORO 27410
BOWMAN GRAY 919 288-65

LITTLE, ALFRED BOYD CD /IM A
1016 N. ELM ST. 78 79 8
GREENSBORO 27401
U OF NC 919 272-61

LITTLE, EDGAR WATSON PD A
1307 W. WENDOVER AVE. 71 71 7
GREENSBORO 27408
U OF NC 919 275-86

LOCKWOOD, MARILYN ANN PD /ADL A
UNC-G STUDENT HEALTH CENTER 64 64 7
GREENSBORO 27412
ST U OF NY-BUFF 919 379-53

LOMAX, CHARLES WESTON OBG A
522 N. ELAM AVE. 68 69 7
GREENSBORO 27403
BOWMAN GRAY 919 273-09

LONDON, HOWARD B. OPH A
721 GREEN VALLEY RD. 68 73 8
GREENSBORO 27408
CHICAGO MED SCH 919 378-16

LONG, PAUL DEMARS ORS A
1505 WESTOVER TERR. 62 62 7
GREENSBORO 27408
U OF MICHIGAN 919 275-09

LONON, ROBERT WARREN, JR. AN A
5501 WESTFIELD DR. 69 73 7
GREENSBORO 27410
DUKE 919 373-85

LOVE, JAMES MCLEAN N /IM A
2007 LAFAYETTE DRIVE 72 72 8
GREENSBORO 27408
DUKE 919 275-07

LUND, HERBERT ZACHAREUS PTH /D L
1200 N. ELM ST. 31 32 5
GREENSBORO 27401
U OF PENN 919 379-40

LUPTON, CARROLL CRESCENT CRS L/R
3300 STARMOUNT DRIVE 32 32 3
GREENSBORO 27403
TEMPLE U 919 299-92

LUPTON, EMMETT STEVENSON D L/R
P. O. BOX 177 38 38 4
ALAMANCE 27201
NEW YORK U 919 228-12

LUSK, JOHN ALEXANDER, III ON /IM AC
1007 PROFESSIONAL VILLAGE 51 58 5
GREENSBORO 27401
U OF ALABAMA 919 272-21

LYDAY, RUSSELL OSBORNE GS L/R
1915 BOULEVARD ST. 20 20 2
C/O MEADOWBROOK TERR.
GREENSBORO 27407
U OF PENN 919 854-21

MABRY, EDWARD BLOXTON OBG AC
1305 W. WENDOVER AVENUE 53 57 6
GREENSBORO 27408
DUKE 919 274-63

41. GREENSBORO SOCIETY OF MEDICINE (Continued)

ANESS, ARCHIBALD KELLY, JR. OBG AC
1305 W. WENDOVER AVENUE 62 62 70
GREENSBORO 27408
U OF PENN 919 273-3624

ARKS, EDGAR SEYMOUR IM AC
1100 OLIVE STREET 45 48 48
GREENSBORO 27401
BOWMAN GRAY 919 378-9906

ARSHALL, BERNARD ANTHONY OBG AC
P. O. BOX 21922 72 73 81
GREENSBORO 27406
HOWARD U

ARSICANO, THOMAS H. CDS AC
1317 N. ELM ST., STE. 1 73 73 86
GREENSBORO 27401
OHIO STATE U 919 373-8245

ARTIN, MATTHEW BRUNSON GS AC
311 W. WENDOVER AVE. 79 79 79
GREENSBORO 27408
U OF TEXAS-SW 919 275-8415

ATTHEWS, JOHN DAIL OPH AC
3312 BATTLEGROUND AVE. 79 80 85
GREENSBORO 27410
MED U OF SC

AULTSBY, JAMES ALEXANDER ORS /PM AC
200 E. NORTHWOOD ST., STE. 410 57 57 69
GREENSBORO 27401
BOWMAN GRAY 919 373-0312

AXWELL, JAMES HEATH DR AC
2313 PRINCESS ANN ST. 78 79 83
GREENSBORO 27408
U OF KENTUCKY 919 299-6815

AYER, NORMAN MICHAEL EM AC
P. O. BOX 29066 75 75 82
GREENSBORO 27408
BOWMAN GRAY 919 379-4040

AYNARD, DAVID RUSSELL AN AC
213 MISTLETOE DR. 65 65 73
GREENSBORO 27403
DUKE 919 855-0767

CALISTER, JEAN COLVIN PD L/RT
925 NEW GARDEN RD.APT.121 33 36 37
GREENSBORO 27410
U OF PENN 919 855-8489

CCOMB, JOHN SANFORD OBG AC
522 N. ELAM AVE. 80 83 85
GREENSBORO 27403
BOWMAN GRAY 919 273-0936

CGEE, JULIAN MURRILL GP L/RT
1101 N ELM ST., APT. 508 25 27 28
GREENSBORO 27401
U OF PENN 919 272-0787

CKEOWN, WILLIAM DAVID IM /GER AC
1100 OLIVE STREET 76 76 76
GREENSBORO 27401
BOWMAN GRAY 919 378-9906

CPHAIL, SCHUBERT DEAN OBG AC
1517 N. CHURCH ST. 63 63 75
GREENSBORO 27408
MED U OF SC 919 379-8460

CRAE, MARVIN EVERETT D L/RT
1009 COUNTRY CLUB DR. 38 49 49
GREENSBORO 27408
MED COLL OF VA

CRAE, WILLIAM KENNETH GP AC
UNC-G STUDENT HEALTH CENTER 64 64 68
GREENSBORO 27412
BOWMAN GRAY 919 334-5340

EDOFF, JEFFREY ROY GE AC
721 GREEN VALLEY RD. 77 77 85
GREENSBORO 27408
NEW YORK MED COL 919 378-0774

EZER, HOWARD CABITT OBG /END AC
1305 W. WENDOVER AVENUE 77 78 84
GREENSBORO 27408
TUFTS U 919 273-2835

LLER, STEPHEN MAURICE FP /EM AC
603 DOLLY MADISON 74 76 78
GREENSBORO 27410
U OF NC 919 852-7530

LLS, WARDELL HARDEE OPH L/RT
1202 COUNTRY CLUB DRIVE 40 40 48
GREENSBORO 27408
DUKE 919 274-3391

MITCHELL, LEWIS DEAN FP AC
1016 PROFESSIONAL VILLAGE 82 84 87
GREENSBORO 27401
U OF SOU FLORIDA 919 379-1156

MOORE, JOHN ANDREW IM /RHU AC
1511 WESTOVER TERRACE 48 54 55
GREENSBORO 27408
MED COLL OF VA 919 373-0951

MOORE, WILLIAM LOCKE PD AC
616 PASTEUR DRIVE 52 52 56
GREENSBORO 27403
HARVARD 919 292-1353

MORCOS, VICTOR HANNA P AC
522 N. ELAM AVE., STE. 203 64 73 81
GREENSBORO 27403
EIN SHAMS U 919 854-2391

MORRELL, ROBERT X., JR. PM AC
MOSES CONE HOSPITAL 83 84 86
1200 N. ELM ST.
GREENSBORO 27401
U OF LOUISVILLE 919 379-3667

MORRIS, MARSHALL G., JR. GS /TS AC
#6 ASHTON SQUARE 46 46 52
GREENSBORO 27408
BOWMAN GRAY 919 274-8444

MORTENSON, RODNEY ALLEN ORS /HS AC
2017 ST. ANDREWS ROAD 67 67 74
GREENSBORO 27408
U OF SOU CALIF 919 275-6318

MURINSON, DONALD S. ON /HEM AC
1511 WESTOVER TERRACE 72 72 86
GREENSBORO 27408
U OF VERMONT 919 373-0611

MURPHY, DANIEL F. ORS AC
530 N. ELAM AVE. 81 82 86
PO BOX 29523
GREENSBORO 27403
TEMPLE U 919 292-8824

MURRAY, WILLIAM GRAY IM L/RT
1808 CARLISLE ROAD 44 47 48
GREENSBORO 27408
DUKE 919 274-5155

NADEL, SCOTT MARTIN IM /PUD AC
721 GREEN VALLEY RD. 75 76 82
GREENSBORO 27408
U OF MIAMI 919 378-0774

NEAL, WILLIAM RONALD OBG AC
1507 WESTOVER TERR. 74 74 81
GREENSBORO 27408
U OF NC 919 273-3661

NEIJSTROM, ERIC SHERWOOD ON /IM AC
1007 PROFESSIONAL VILLAGE 76 78 82
GREENSBORO 27401
U OF VIRGINIA 919 272-2141

NESI, MARC HENRY U AC
1100 OLIVE ST. 71 76 85
GREENSBORO 27401
U OF HAITI 919 373-0871

NEWELL, MCARTHUR OBG AC
1710 E. BESSEMER AVE. 73 74 82
PO BOX 21503
GREENSBORO 27420
U OF NC 919 274-1558

NEWMAN, DAVID HAROLD GS AC
200 E. NORTHWOOD ST., STE.304 80 81 86
GREENSBORO 27401
BOWMAN GRAY 919 378-9811

NOLAN, CLYDE, JR. D AC
1100 OLIVE STREET 74 75 80
GREENSBORO 27401
U OF NC 919 379-1193

NOWLAN, FAGG BERNARD FP RT
4308 KIMMRIDGE ROAD 46 46 49
GREENSBORO 27406
BOWMAN GRAY 919 674-5100

OLIN, DAVID BAKER NEP /IM AC
208 W. WENDOVER AVENUE 68 68 77
GREENSBORO 27401
OHIO STATE U 919 379-9708

OLSON, BEVERLY IM /EM AC
1919-A BOULEVARD ST. 71 73 78
GREENSBORO 27407
U OF BOLOGNA 919 854-8900

OSBORNE, JAMES C. IM AC
3017 ROBIN HOOD DR. 83 84 86
GREENSBORO 27408
U OF NC 919 274-3241

OWENS, BERNARD JAMES, III CDS /GS AC
1017 PROFESSIONAL VILLAGE 72 73 84
GREENSBORO 27401
DOWNSTATE ME CTR 919 274-2933

PANOSH, WANDA KOTVAN PD /IM AC
ANNA GOVE HEALTH CENTER 78 82 84
UNC AT GREENSBORO
GREENSBORO 27412
U OF PITTSBURGH 919 379-5340

PARKER, HERMAN RICHARD, JR. IM AC
408-B PARKWAY DRIVE 67 67 73
GREENSBORO 27401
U OF NC 919 275-9804

PARKER, MICHAEL DEAN R AC
3404 WYNNEWOOD DRIVE 68 69 83
GREENSBORO 27408
DUKE 919 288-2324

PATSEAVOURAS, LOUIE LEE PSF AC
522 N. ELAM AVENUE 61 61 67
GREENSBORO 27403
U OF NC 919 299-4907

PATTERSON, DAVID READ GE /IM AC
721 GREEN VALLEY RD. 73 73 79
GREENSBORO 27408
U OF NC 919 378-0774

PAUL, VINCENT EDGAR ORS AC
530 N. ELAM AVENUE 76 76 82
GREENSBORO 27403
U OF NC 919 292-8824

PELLIGRA, SALVATORE JOHN PM AC
1200 N. ELM ST. 81 83 85
GREENSBORO 27401
ALBANY MED COLL 919 379-3667

PENDSE, PRABHAKAR D. PDS /GS AC
1018 PROFESSIONAL VILLAGE 59 60 72
GREENSBORO 27401
U OF BOMBAY 919 272-6161

PETERSON, LLOYD JOHN U AC
200 E.NORTHWOOD ST., STE. 302 69 73 79
GREENSBORO 27401
NORTHWESTERN U 919 275-6115

PHILLIPS, ROBERT LEWIS NS AC
200 NORTHWOOD ST., STE. 206 52 54 60
GREENSBORO 27401
JEFFERSON 919 274-4666

PIERSON, GEORGE HERMAN, JR R /TR AC
P. O. BOX 13005 54 54 73
GREENSBORO 27405
DUKE 919 379-4140

POOLE, GORDON JOSEPH DR AC
1200 N. ELM ST. 64 64 74
MOSES H. CONE HOSPITAL
GREENSBORO 27401
BOWMAN GRAY 919 379-4140

PREFONTAINE, J. EDOUARD OPH L/RT
830 SOUTHEASTERN BLDG. 27 31 34
GREENSBORO 27401
LAVAL U 919 272-3523

PRESSON, THOMAS LEMUEL ORS AC
315 W. WENDOVER AVENUE 65 65 74
GREENSBORO 27408
U OF NC 919 275-0724

PRICE, THOMAS BAKER GS AC
200 E. NORTHWOOD ST., STE. 304 64 64 71
GREENSBORO 27401
DUKE 919 378-9811

RABOLD, LEONARD JAMES IM L/RT
209 HOMEWOOD AVENUE 41 48 49
GREENSBORO 27403
VANDERBILT U 919 379-4025

RAVENEL, SAMUEL DUBOSE PD AC
1200 N. ELM STREET 64 64 71
GREENSBORO 27401
DUKE 919 379-3900

RAY, WALTER CARROLL GYN AC
522 N. ELAM AVE. 61 62 67
GREENSBORO 27403
U OF ALABAMA 919 299-3101

41. GREENSBORO SOCIETY OF MEDICINE (Continued)

REGISTER, JOHN FRANCIS ORS L
310 ROCKFORD ROAD 31 31 37
GREENSBORO 27401
MED U OF SC 919 274-0161

REID, WILLIAM JOSEPH FP L
2301 DANBURY ROAD 48 49 51
GREENSBORO 27408
NEW YORK MED COL 919 274-6171

RENDALL, JOHN LLOYD, III ORS AC
108 KEMP ROAD, EAST 73 78 80
GREENSBORO 27410
DUKE 919 275-6318

RHOADS, EDWARD JOHN P /PYA AC
606 WALTER REED DR. 75 78 83
GREENSBORO 27403
DUKE 919 299-0511

†RICHMAN, SAMUEL DR L
342 N. ELM STREET 27 54 55
DECEASED - 6-5-87
GREENSBORO 27401
U OF MINN 919 275-8486

ROBINSON, STEPHEN CARY NS AC
200 E. NORTHWOOD, SUITE 504 67 67 75
GREENSBORO 27401
DUKE 919 272-4578

ROGERS, CHARLES STEWART IM AC
1200 N. ELM STREET 73 73 85
GREENSBORO 27401
U OF NC 919 379-4062

ROGERS, SEYMOUR SHULMAN GS L/RT
1503 ALLENDALE ROAD 36 36 49
GREENSBORO 27408
NEW YORK U 919 273-6695

ROLLINS, HAL JUDD, JR. OPH AC
348 N. ELM STREET 58 58 65
GREENSBORO 27401
DUKE 919 274-4626

ROSEN, RICHARD JAMES IM /HEM AC
1032 PROFESSIONAL VILLAGE 55 65 78
GREENSBORO 27401
GEO WASHINGTON U 919 273-9758

ROSENBERG, STANLEY JOSEPH AN AC
PO BOX 10373 68 69 78
GREENSBORO 27404
U OF MICHIGAN 919 379-4092

ROSS, ALLAN OBG AC
408 PARKWAY 75 79 79
GREENSBORO 27401
U OF PENN 919 378-1110

ROWE, WILLIAM THOMAS RHU /IM AC
1511 WESTOVER TERRACE 69 69 83
GREENSBORO 27408
U OF NC 919 378-1461

RUSKIN, JEROME CD AC
1904 N. CHURCH STREET 60 60 70
GREENSBORO 27405
ALBERT EINSTEIN 919 274-3241

RUSSELL, EUGENE FAIRCHILD,III OBG AC
1309 N. ELM STREET 65 65 75
GREENSBORO 27401
U OF VIRGINIA 919 273-2563

SARDI, CARL ANTHONY OTO /A L
7100 BETHLEHEM CHURCH RD. 52 56 56
CLIMAX 27233
TEMPLE U 919 674-2509

SAWYER, JOHN WILSON IM AC
609 WALTER REED DRIVE 52 52 56
GREENSBORO 27403
CASE WESTERN RES 919 299-2815

SCHAAL, JENNIFER C. OBG AC
1507 WESTOVER TERR., STE. C 82 84 87
GREENSBORO 27408
U OF NC 919 273-0936

SCHALL, STEWART ALLAN PDC /PD AC
1200 N. ELM ST. 64 72 86
GREENSBORO 27401
U OF PENN 919 379-4060

SCHUSTER, STEPHEN BARBER AN AC
1816 PEMBROKE RD., STE. #2 80 82 84
GREENSBORO 27408
OHIO STATE U 919 272-3720

SCHWEIZER, DONALD CONRAD GYN AC
1517 N. CHURCH ST. 43 47 48
GREENSBORO 27405
MED COLL OF VA 919 379-8460

SCOTT, CORIDALIA WALD PTH AC
2803 LAKE FOREST DR. 70 77 83
GREENSBORO 27408
U OF PANAMA 919 854-6455

SCOTT, JOHN LAYNE DR /NM AC
2803 LAKE FOREST DR. 67 67 74
GREENSBORO 27408
BOWMAN GRAY 919 855-8972

SETHI, SHASHI K. OPH AC
111 W. WENDOVER AVE. 66 67 86
GREENSBORO 27401
MAULANA AZAD 919 275-5673

SEVIER, ROBERT ENGLISH END /IM AC
200 E. NORTHWOOD ST., STE. 312 66 66 75
GREENSBORO 27401
U OF NC 919 274-7609

SHAFER, DONALD THORNTON AN AC
5 MONMOUTH COURT 74 75 77
GREENSBORO 27410
BOWMAN GRAY 919 373-8555

SHAPIRO, MARK THOMAS OPH AC
1311 N. ELM ST. 70 70 85
GREENSBORO 27401
OHIO STATE U 919 378-9993

SHARPLESS, EDWARD ARTHUR PTH AC
DRAWER X-3 61 61 67
GREENSBORO 27402
U OF NC 919 299-6815

SHARPLESS, MARTHA KORNEGAY PD AC
MOSES CONE HOSPITAL 59 59 69
GREENSBORO 27401
U OF NC 919 379-4064

SHELBURNE, PALMER FRIEND CD AC
1011 PROFESSIONAL VILLAGE 55 55 62
GREENSBORO 27401
U OF NC 919 272-6133

SHEPHERD, ROBERT EDWARD DR AC
P. O. BOX 13005 79 80 78
GREENSBORO 27405
BOWMAN GRAY 919 273-0325

SILBER, DAVID LAWRENCE PD AC
1200 N. ELM STREET 57 57 83
GREENSBORO 27401
VANDERBILT U 919 379-4064

SILLMON, DAVID WILDE IM /HEM AC
1511 WESTOVER TERRACE 63 63 71
GREENSBORO 27408
U OF NC 919 373-0611

SIMEL, PAUL JOSEPH OPH AC
111 W. WENDOVER AVENUE 55 61 81
GREENSBORO 27401
BOSTON U 919 275-5673

SINGER, JAMES WILLARD PD AC
1209 MAGNOLIA STREET 61 66 67
GREENSBORO 27401
OHIO STATE U 919 274-0106

SLOTNICK, LAWRENCE SHELDON PUD /A AC
1018 N. ELM STREET 70 72 78
GREENSBORO 27401
DOWNSTATE ME CTR 919 275-7238

SMITH, DALLAS AARON, JR. DR AC
4507 KENBRIDGE DRIVE 76 76 83
GREENSBORO 27410
BOWMAN GRAY 919 854-1311

SMITH, DONALD DEWEY PD AC
1200 N. ELM ST. 60 61 67
GREENSBORO 27401
DUKE 919 379-4025

SMITH, O. NORRIS IM L/RT
202 W. BESSEMER AVENUE 33 33 38
GREENSBORO 27401
U OF PENN 919 273-7494

SMITH, ROY MEADOWS PD L/RT
1002 RIDGECREST DR. 34 34 37
GREENSBORO 27410
U OF PENN 919 292-2643

SMITH, WILLIAM SIEGFRIED, JR. GYN AC
104 W. NORTHWOOD STREET 61 61 68
GREENSBORO 27401
DUKE 919 378-1843

SPANGLER, ERNEST BURTON R AC
DRAWER X-3 52 59 62
GREENSBORO 27402
U OF PENN 919 854-6546

SPARROW, HARRY WARD IM A
342 N. ELM STREET 44 44
GREENSBORO 27401
NORTHWESTERN U 919 275-84

SPRUILL, JEROME OSCAR CD A
PO BOX 21974 79 79
GREENSBORO 27420
MEHARRY MED COLL 919 273-69

STAFFORD, WILLIE RANSOME, JR. FP /OM A
948 WALKER AVENUE 56 56
GREENSBORO 27403
U OF NC 919 275-76

STARR, HENRY FRANK, JR. OM A
3106 ALAMANCE RD. 48 48
GREENSBORO 27407
JEFFERSON 919 299-43

STEUTERMAN, MARY CHRISTINE PTH A
1200 N. ELM ST. 78 79
GREENSBORO 27401
ST LOUIS U 919 379-40

STEVENS, ELLIOTT WALKER, JR. PUD /AI A
1018 N. ELM STREET 66 66
GREENSBORO 27401
U OF NC 919 275-72

STEVENS, JOSEPH BLACKBURN IM /N
102 IRVING PARK CT. 36 40
GREENSBORO 27408
DUKE 919 272-72

STIEFEL, JOSEPH WALTER N A
1910 N. CHURCH ST. 58 60
GREENSBORO 27405
U OF TENNESSEE 919 273-25

STINSON, HELEN MARIE PS A
1219 MAGNOLIA STREET 66 66
GREENSBORO 27401
U OF TENNESSEE 919 272-31

STRECK, CHRISTIAN JOHN GS A
311 W. WENDOVER AVE. 71 76
GREENSBORO 27408
U OF FLORIDA 919 275-84

STUCKEY, THOMAS DAVID IM A
1101 BEARHOLLOW RD. 79 81
GREENSBORO 27410
OHIO STATE U. 919 378-07

SUE, SAMUEL ARTHUR, JR. ORS A
315 W. WENDOVER AVENUE 56 56
GREENSBORO 27408
BOWMAN GRAY 919 275-07

SULLIVAN, DANIEL JAMES IM /OM A
1601 PEBBLE DR. 43 44
GREENSBORO 27410
DOWNSTATE ME CTR 919 855-14

SULLIVAN, RAYMOND C.,JR. IM /AM A
1511 WESTOVER TERRACE 69 69
GREENSBORO 27408
U OF FLORIDA 919 378-14

SURAL, RONALD FRANK U A
1006 PROFESSIONAL VILLAGE 67 68
GREENSBORO 27401
U OF MICHIGAN 919 373-83

SYPHER, ROBERT V., JR. HS /ORS A
409-E PARKWAY DR. 77 78
GREENSBORO 27401
SYRACUSE 919 378-08

TAYLOR, SHAHANE RICHARDSON, JR OPH A
348 N. ELM STREET 59 59
GREENSBORO 27401
U OF NC 919 274-46

TENNANT, STANLEY NEAL CD A
1011 PROFESSIONAL VILL. 78 80
GREENSBORO 27401
BOWMAN GRAY 919 299-01

THACKER, ROBERT KELLER FP A
603 DOLLEY MADISON 73 74
GREENSBORO 27410
U OF FLORIDA 919 294-61

TOWNSEND, MURPHY FURMAN, JR. IM A
1007 PROFESSIONAL VILLAGE 61 62
GREENSBORO 27401
BOWMAN GRAY 919 272-21

TROXLER, EULYSS ROBERT ORS
2314 PRINCESS ANN ST. 38 47
GREENSBORO 27408
DUKE 919 288-55

41. GREENSBORO SOCIETY OF MEDICINE (Continued)

UESDALE, GERALD LYNN PS /GS AC 75 79 84
01 N. ELM ST.
GREENSBORO 27401
J OF CHICAGO 919 274-2757

RNER, WILLIAM HARRISON, III D /IM AC 68 68 77
030 PROFESSIONAL VILLAGE
GREENSBORO 27401
MED COLL OF VA 919 373-1384

SINGER, JOHN REED CD /IM AC 70 72 85
511 WESTOVER TERRACE
GREENSBORO 27408
MED U OF SC 919 373-1562

TZ, BENJAMIN IM AC 45 45 50
904 N. CHURCH STREET
GREENSBORO 27405
DUKE 919 274-3241

UGHAN, EDWIN WARNER IM /RIP L/RT 37 37 40
632 WALKER AVENUE
GREENSBORO 27403
J OF VIRGINIA 919 299-7909

IOD, SHEELA UDAYAN PTH AC 73 77 83
DRAWER X-3
GREENSBORO 27402
J OF BOMBAY 919 854-6454

INER, HOWARD SCHEYER IM /GE AC 54 54 60
904 N. CHURCH STREET
GREENSBORO 27405
OWMAN GRAY 919 274-3241

RWICK, HIGHT CLAUDIUS AN L/RT 34 34 36
320 KIRKPATRICK PLACE
GREENSBORO 27408
MED COLL OF VA 919 272-4220

ATHERLY, WILLIAM JESSE GS AC 70 70 81
014 PROFESSIONAL VILLAGE
GREENSBORO 27401
J OF NC 919 373-1078

IN, ROBERT MICHAEL OBG AC 72 72 79
08 PARKWAY
GREENSBORO 27401
J OF VIRGINIA 919 378-1110

WEINTRAUB, RICHARD ALAN CD /IM AC 70 71 78
721 GREEN VALLEY RD.
GREENSBORO 27408
GEORGETOWN U 919 378-1244

WEISS, JOSEPH WALTON P AC 77 78 85
522 N. ELAM AVENUE, STE. 203
GREENSBORO 27403
MED COLL OF OHIO 919 854-2391

WEISSMAN, JAMES MICHAEL GE /IM AC 70 71 79
1904 N. CHURCH STREET
GREENSBORO 27405
U OF ILLINOIS 919 274-3241

WELBORN, JULIUS WARREN, JR. IM /OM AC 51 52 52
200 E. NORTHWOOD ST., STE. 310
GREENSBORO 27401
MED U OF SC 919 273-0872

WELLS, RHEUDOLPH JAMES OTO /PS AC 56 62 62
602 PASTEUR DRIVE
GREENSBORO 27403
MED COLL OF VA 919 292-5818

WHEELER, REBECCA RUSSELL IM /ID AC 81 81 86
1200 N. ELM ST.
GREENSBORO 27401
BAYLOR 919 379-4062

WHITENER, ROBERT WILFONG P AC 54 54 62
1024 PROFESSIONAL VILLAGE
GREENSBORO 27401
NORTHWESTERN U 919 274-1250

WHITFIELD, PETER WHITE ORS AC 74 76 81
201 E. WENDOVER AVE.
GREENSBORO 27401
GEO WASHINGTON U 919 274-1957

WILLIAMS, JOHN DUDLEY, JR. GYN L 30 31 59
1715-A W. MARKET ST.
GREENSBORO 27403
TEMPLE U 919 272-8833

WILSON, CHARLES HARRISON CDS /TS AC 73 77 82
1317 N. ELM ST., STE. 1
GREENSBORO 27401
MED COLL OF VA 919 373-8245

WINTER, KENNETH HOWE R AC 75 75 81
3307 WALDRON DRIVE
GREENSBORO 27408
U OF NC 919 855-8972

WOLFF, GEORGE THOMAS FP AC 52 52 56
1016-A PROFESSIONAL VILLAGE
GREENSBORO 27401
JEFFERSON 919 379-1156

WOLICKI, KAROL T. OTO AC 81 81 87
321 W. WENDOVER AVE.
GREENSBORO 27408
U OF VIRGINIA 919 379-9445

WORLAND, DAVID ERIC AN AC 74 76 78
1816 PEMBROKE RD., STE. #2
GREENSBORO 27408
INDIANA U 919 272-3720

YARBROUGH, JOHN WARD TS AC 67 67 77
2750 LAUREL STREET, STE. 305
COLUMBIA, SC 29204
BOWMAN GRAY 803 254-5140

YOUNG, CLINTON DRIVER PUD /A AC 74 74 81
1018 N. ELM STREET
GREENSBORO 27401
U OF VIRGINIA 919 275-7238

YOUNG, KYLE ALLEN DR AC 69 69 73
P. O. BOX 13005
GREENSBORO 27405
BOWMAN GRAY 919 379-4144

YOUNG, PETER RUSSELL GS AC 61 61 69
1317 N. ELM ST., STE. 5
PO BOX 10037
GREENSBORO 27404
EMORY U 919 274-8444

42. HALIFAX COMPONENT SOCIETY

FICERS—**President:** Mario Fiorilli, M.D., 220 Smith Church Rd., Roanoke Rapids 27870 (919 535-3001)
Secretary: Amada R. DeVilla, M.D., 115 Long Circle, Roanoke Rapids 27870 (919 537-8193)
Executive Secretary: Cathy King, 115 Long Circle, Roanoke Rapids 27870 (919 537-8193)

TONY, JOSE KANDANATT CD AC 79 81 87
38 OLD FARM ROAD
.O. BOX 1175
OANOKE RAPIDS 27870
OF ROMA 919 537-9268

SSRAM, GANESH ORS AC 72 81 85
130 CARDINAL DR.
ROANOKE RAPIDS 27870
U OF WEST INDIES 919 535-3091

LOWE, RALPH BOYD, SR. FP L 38 38 41
10 WEST 6TH STREET
WELDON 27890
MED COLL OF VA 919 536-3820

ONE, JOHN WOODIE, JR. FP AC 51 51 54
120 PROFESSIONAL DRIVE
ROANOKE RAPIDS 27870
BOWMAN GRAY 919 537-9176

ROWN, WILLIAM LEE IM AC 61 61 71
P. O. DRAWER 158
ROANOKE RAPIDS 27870
U OF NC 919 537-0135

'RD, WILLIAM EUGENE RHU /IM AC 70 70 84
1724 E. TENTH ST.
PO BOX 1093
WELDON 27890
U OF NC 919 535-1082

'RUM, GRAHAM VANCE FP /GP AC 52 52 56
P. O. BOX 540
SCOTLAND NECK 27874
BOWMAN GRAY 919 826-3143

ACERES, MARCO ANTONIO GS /TS AC 63 71 76
PO BOX 458
ROANOKE RAPIDS 27870
U OF HONDURAS 919 537-6525

CHAUDHRY, HASHMAT ALI OPH AC 69 76 84
725-C HAMILTON ST.
ROANOKE RAPIDS 27870
NISHTAR MED COLL 919 537-0522

COVINGTON, JOHN M.C. OPH L/RT 29 29 33
506 FRANKLIN STREET
ROANOKE RAPIDS 27870
U OF VIRGINIA 919 537-3644

DEEPE, ROBERT GS AC 79 80 85
PO BOX 458
ROANOKE RAPIDS 27870
U OF CINCINNATI 919 535-1585

DEVILLA, AMADA RUIZ OPH AC 79 80 84
115 LONG CIRCLE
ROANOKE RAPIDS 27870
U OF KENTUCKY 919 537-8193

ELMORE, WILLIAM GLENN DR AC 68 68 75
P. O. BOX 249
ROANOKE RAPIDS 27870
DUKE 919 535-2121

FIORILLI, MARIO GRAZIA ID /IM AC 71 74 81
220 SMITH CHURCH ROAD
ROANOKE RAPIDS 27870
U DESACRO CUORO 919 535-3001

FRAZIER, RICHARD ELLIS FP AC 62 62 67
120 PROFESSIONAL DRIVE
ROANOKE RAPIDS 27870
BOWMAN GRAY 919 537-9176

FU, HUNG-JEN GS /TS AC 61 72 85
1060 E. 10TH ST.
ROANOKE RAPIDS 27870
KAOHSIUNG ME COL 919 537-2153

FUSSELL, FITZHUGH LEE, JR. GP AC 60 60 65
120 PROFESSIONAL DRIVE
ROANOKE RAPIDS 27870
U OF NC 919 537-9176

JACOB, WILLIAM MITCHELL DR /R AC 79 83 84
1210 QUAIL COURT
ROANOKE RAPIDS 27870
U OF COLORADO 919 535-8155

JARMAN, FONTAINE GRAHAM, JR. GS L/RT 43 52 52
12 LONGSTREET ROAD
WELDON 27890
MED COLL OF VA 919 536-2884

MANLAPAS, HECTOR CHAN IM AC 63 63 72
P. O. DRAWER 158
ROANOKE RAPIDS 27870
U OF SANTO TOMAS 919 537-0135

OVERTON, MARK HOWARD IM /FP AC 81 84 84
STAR ROUTE, BOX 207A
GASTON 27832
U OF OREGON 919 535-2966

PANDARINATH, GUPTA GE /IM AC 72 75 78
DRAWER 158
ROANOKE RAPIDS 27870
BANGALORE MED CO 919 537-0135

PATEL, MAHENDRA S. IM /ON AC 76 79 85
240 SMITH CHURCH RD.
ROANOKE RAPIDS 27870
BARODA U 919 537-0134

PORTELA, ANGEL ISMAEL IM RT 51 62 63
220 SMITH CHURCH ROAD
ROANOKE RAPIDS 27870
MED COLL OF VA 919 535-3001

POWER, BHASKAR DAYARAM OTO /A AC 57 58 84
240 SMITH CHURCH ROAD
ROANOKE RAPIDS 27870
U OF BOMBAY 919 535-1411

SHANKER, KASTURI GIRIJA U AC 60 73 78
117 WEST SEVENTH STREET
ROANOKE RAPIDS 27870
MADRAS MED COLL 919 537-0023

42. HALIFAX COMPONENT SOCIETY (Continued)

SUMPTER, EDWIN ALLEN PD AC
BOX 848 56 56 82
WELDON 27890
U OF VIRGINIA 919 536-2557

TAYLOR, THOMAS JEFFERSON GP L
616 FRANKLIN STREET 34 34 37
ROANOKE RAPIDS 27870
JEFFERSON 919 537-6156

WATSON, SUSAN A. OPH AC
115 LONG CIRCLE 81 82 87
ROANOKE RAPIDS 27870
U OF CINCINNATI 919 539-8193

WILLIAMS, RHODERICK THOMAS, JR DR AC
114 WOODLAND ROAD 67 67 76
ROANOKE RAPIDS 27870
U OF NC 919 535-2121

WOOD, SHERROD NEWBERRY GP
111 RAILROAD STREET 50 50
ENFIELD 27823
JEFFERSON 919 445-5

43. HARNETT COMPONENT SOCIETY

OFFICERS—**President:** Lawrence F. Feld, M.D., 708 Tilghman Dr., Dunn 28334 (919 892-0424)
Secretary: Thomas L. Taylor, M.D., 116 Jones Dr., Dunn 28334 (919 892-7161)

ADAIR, WILLIAM EDWARD, JR. GP /GS L
P. O. BOX 578 38 38 41
ERWIN 28339
TEMPLE U 919 897-5521

AMSELLEM, DAVID P AC
GOOD HOPE HOSPITAL 73 73 85
PO BOX 668, DENIM DR.
ERWIN 28339
U OF MONTPELLIER 919 897-6151

BLACKMON, BRUCE BERNARD FP AC
P. O. BOX 8 51 51 53
BUIES CREEK 27506
BOWMAN GRAY 919 893-3543

BYRD, CHARLES WILLIAM FP L/RT
P. O. BOX 698 40 40 47
DUNN 28334
TEMPLE U 919 892-2464

DOFFERMYRE, LUTHER RANDOLPH FP L
P. O. BOX 1011 38 38 39
DUNN 28334
TEMPLE U 919 892-4151

DUNCAN, MARGARETA JOHNSON FP AC
306 W. EDGERTON STREET 56 56 60
DUNN 28334
U OF NC 919 892-2567

DUNCAN, STACY ALLEN, JR. FP AC
306 W. EDGERTON STREET 56 56 60
DUNN 28334
U OF NC 919 892-2151

HANCOCK, RICHARD PAUL GS /TS AC
702 TILGHMAN DR. 61 65 67
DUNN 28334
JOHNS HOPKINS 919 892-8120

JOHNSON, GALE DENNING GS AC
119 LUCKNOW SQUARE 44 44 47
DUNN 28334
JEFFERSON 919 892-7893

LEE, THOMAS CHEN-YAO GS AC
703 TILGHMAN DRIVE 58 58 79
P. O. BOX 1501
DUNN 28334
TAIWAN U-TAIPEI 919 892-1631

LOWE, BARBARA ANN IM AC
700 TILGHMAN DR. 82 83 85
DUNN 28334
U OF NC 919 892-1056

MISULIA, ANDREW G. FP AC
705 TILGHMAN DR. 81 82 84
DUNN 28334
U OF MARYLAND 919 892-4096

MOORE, WILLIAM DONALD FP AC
P. O. BOX 280 44 47 50
COATS 27521
MED COLL OF VA 919 897-6423

PETERSON, ROBERT L.,JR. OBG AC
608 TILGHMAN DR. 82 83 86
DUNN 28334
U OF NC 919 892-4092

ROBINSON, LINDA MOORE FP AC
COATS MEDICAL CLINIC 76 76 75
P. O. BOX 280
COATS 27521
U OF NC 919 897-6423

SEDDON, JENNIFER LYNN FP
RT 4, BOX 630 68 68
DUNN 28334
U OF ENDINBURGH 919 892-2

SEDDON, JOHN MICHAEL U
714 TILGHMAN DR. 67 69
DUNN 28334
U OF EDINBURGH 919 892-1

SEEMAN, BRIAN ANDREW AN
702 TILGHMAN DR. 82 83
DUNN 28334
DOWNSTATE ME CTR 919 892-9

SHULER, JIMMIE BLAKE PD
518 EAST H STREET 78 82
PO BOX 687
ERWIN 28339
MEHARRY MED COLL 919 897-8

TAYLOR, THOMAS LEE DR
116 JONES DRIVE 53 53
DUNN 28334
CORNELL U 919 892-7

WILLIFORD, JOHN KENNETH FP
P. O. BOX 579 46 46
LILLINGTON 27546
BOWMAN GRAY 919 893-3

WILSON, STEPHEN GLENN, SR. GP L/
P. O. BOX 158 30 30
ANGIER 27501
MED COLL OF VA 919 639-2

ZICH, MICHAEL JOHN OBG
608 TILGHMAN DR. 75 77
DUNN 28334
U OF ILLINOIS 919 892-4

44. HAYWOOD COMPONENT SOCIETY

OFFICERS—**President:** Richard Valenziano, M.D., 1600 N. Main St., Waynesville 28786 (704 456-3511)
Secretary: Nancy R. Freeman, M.D., Midway Medical Center, Canton 28716 (704 627-2211)
Executive Secretary: Katherine Smith, 90 Hospital Dr., Clyde 28721 (704 452-0821)

BORDER, CLINTON LARRY, JR. GS RT
P. O. BOX 538 52 58 70
WAYNESVILLE 28786
U OF LOUISVILLE 704 452-4500

BRASWELL, WILLIAM KELLEY GS /TS AC
MIDWAY MEDICAL CENTER 77 78 81
P. O. BOX 1409
CANTON 28716
U OF MIAMI 704 627-2211

BROWN, ALAN REID DR L/RT
105 TIMOTHY LANE 41 53 53
WAYNESVILLE 28786
U OF MICHIGAN 704 452-5578

BROWN, GEORGE WALLACE FP AC
102 BROWN AVENUE 54 54 58
HAZELWOOD 28738
U OF NC 704 456-6021

CALLAGHAN, WILLIAM M. OBG AC
PO BOX 427 81 84 85
LAKE JUNALUSKA 28745
OHIO STATE U 704 456-7369

CAMP, EDWARD HAYS GS L/RT
112 BALSAM DRIVE 39 50 51
WAYNESVILLE 28786
U OF CHICAGO 704 456-9858

CYNN, STEVEN JAE FP /D AC
102 HOSPITAL DRIVE 61 74 83
CLYDE 28721
YONSEI U 704 452-0611

DENNIS, KENNETH MICHAEL PD /ADL AC
1 SMATHERS STREET 74 77 78
CLYDE 28721
U OF FLORIDA 704 627-9226

DICKERSON, ANDREW JACKSON GS /TS AC
1600 N. MAIN STREET 48 49 55
WAYNESVILLE 28786
BOWMAN GRAY 704 452-5101

DIXSON, GEORGE RANDALL DR AC
90 HOSPITAL DR. 76 77 85
CLYDE 28721
DUKE 704 452-2260

DYER, DAVID PATTERSON PD /A AC
2436 ASHEVILLE ROAD 44 58 58
WAYNESVILLE 28786
VANDERBILT U 704 456-9041

EARNEST, ROBERT RHEA PD /ADL AC
107 WOODLAND DRIVE 68 69 74
WAYNESVILLE 28786
EMORY U 704 452-2211

FREEMAN, NANCY ROUSER FP AC
PO BOX 1409 82 84 86
CANTON 28716
U OF NC 704 627-2211

GEHWEILER, JOHN ANDREW, JR. R A
P. O. BOX 231 56 56
WAYNESVILLE 28786
DUKE 704 452-1

GILLIGAN, KENDALL ALLEN EM A
109 ROBIN LANE 77 77
WAYNESVILLE 28786
U OF CALIF-LA 704 456-6

HARLEY, STEWART JACQUES ORS A
114 HOSPITAL DRIVE 69 69
CLYDE 28721
U OF MICHIGAN 704 452-2

HILL, STEPHEN THOMAS OBG A
PO BOX 427 80 80
LAKE JUNALUSKA 28745
WEST VA U 704 456-7

LIPHAM, HARRY GLENN PUD /IM A
102 HOSPITAL DRIVE 76 76
CLYDE 28721
BOWMAN GRAY 704 452-0

MASTERS, MICHAEL JASON D A
102 HOSPITAL DR. SUITE #6 75 76
CLYDE 28721
HAHNEMANN 704 456-7

MATHEWS, HERSCHELL F. FP /EM A
ROUTE #1, BOX 564 60 60
SYLVA 28779
BOWMAN GRAY 704 586-8

44. HAYWOOD COMPONENT SOCIETY (Continued)

KINNEY, ALEXANDER STUART N AC 59 60 85
02 HOSPITAL DR.
LYDE 28721
OLUMBIA U 704 452-0331

LING, JAMES REAVES FP AC 55 55 81
18 BRUNSWICK DRIVE
/AYNESVILLE 28786
ED U OF SC 704 456-5566

RRISON, FRANK CRAWFORD GP AC 55 55 58
. O. BOX 1549, MEDICAL BLDG.
ANTON 28716
OF NC 704 648-5215

THAN, HENRY PAUL IG /IM AC 77 77 83
02 HOSPITAL DRIVE
LYDE 28721
LBERT EINSTEIN 704 452-0331

RNEY, JOHN JOSEPH OPH AC 70 71 78
16 HOSPITAL DRIVE
LYDE 28721
IED COLL OF GA 704 452-5816

OWEN, ROBERT HARRISON ABS /GP L 31 31 35
127 1/2 MAIN STREET
CANTON 28716
U OF PENN 704 648-2142

OWEN, WILLIAM BOYD GP AC 42 42 46
PO BOX 780
OWEN-SMITH CLINIC, PA
WAYNESVILLE 28786
U OF PENN 704 456-8601

QUEEN, KATE TAYLOR RHU /IM AC 81 84 86
102 HOSPITAL DR.
CLYDE 28721
U OF NC 704 452-0331

ROBERSON, ROBERT STUART PH L 30 30 32
305 GRIMBALL DR.
HAZELWOOD 28738
MED COLL OF VA 704 456-3662

ROGERS, TED OPH AC 67 67 73
79 PARAGON PARKWAY
CLYDE 28721
U OF NC 704 456-9423

SHARPTON, BENNIE REEVES GS AC 71 73 80
1600 N. MAIN STREET
WAYNESVILLE 28786
MED COLL OF GA 704 456-8633

STEVENS, HUGH L. C. IM /GE AC 46 46 72
1600 N. MAIN STREET
WAYNESVILLE 28786
TEMPLE U 704 452-5124

STRINGFIELD, JAMES KING FP AC 51 51 53
P. O. BOX 900
WAYNESVILLE 28786
JEFFERSON 704 456-3222

TANNEHILL, JOHN FRANKLIN OTO /HNS AC 64 64 77
120 HOSPITAL DRIVE
CLYDE 28721
TULANE U 704 452-1406

WENZEL, FREDERICK GEORGE GS AC 59 66 66
102 HOSPITAL DR., STE. 12
CLYDE 28721
NORTHWESTERN U 704 456-8624

45. HENDERSON COMPONENT SOCIETY

FICERS—**President:** Rodney J. Hawk, M.D., P.O. Box 1065, Hendersonville 28739 (704 693-0706)
Secretary: J. Crit Harley, M.D., 1003 Fifth Ave., W., Hendersonville 28739 (704 692-8042)

BERS, CHARLES ALLEN GS AC 76 76 82
35 FLEMING STREET
ENDERSONVILLE 28739
AYLOR 704 692-0238

EXANDER, WILLIAM MCKINLEY IM L/RT 45 49 54
. O. BOX 627
ENDERSONVILLE 28739
IED U OF SC 704 692-7201

DREWS, THOMAS J. P AC 79 80 86
612 ASHEVILLE HWY, STE. 4
ENDERSONVILLE 28739
OMA LINDA U 704 697-2673

STIN, STEPHEN BRAWNER IM AC 76 78 79
14 N. CHURCH STREET
ENDERSONVILLE 28739
OWMAN GRAY 704 693-1768

LEY, ROBERT WOODWARD FP AC 83 84 80
11 FIFTH AVE. WEST
ENDERSONVILLE 28739
AST CAROLINA U 704 697-1508

KER, EDGAR FP AC 62 66 67
10-A FLEMING STREET
ENDERSONVILLE 28739
OF TENNESSEE 704 693-9973

LL, JOHN DAVIS AN AC 72 72 77
01 SIXTH AVE., WEST
ENDERSONVILLE 28739
OF NC 704 693-7848

AKELY, GENE THORNTON GS AC 54 54 70
MARGARET PARDEE HOSPITAL
ENDERSONVILLE 28739
ULANE U 704 693-6522

OWN, FRANK MAC ORS AC 63 74 82
027 FLEMING STREET
ENDERSONVILLE 28739
OMA LINDA U 704 692-5781

RCH, LARRY THOMAS P AC 64 65 77
ESSEX LANE
ENDERSONVILLE 28739
OF MICHIGAN 919 768-6930

RCH, WILLIAM HOBART FP AC 50 53 54
OX 285, HARRIS RD AND 74
AKE LURE 28746
ASE WESTERN RES 704 625-9121

LDEMEYER, JOHN EVERETT DR AC 78 78 85
15 FLEMING ST.
ENDERSONVILLE 28739
NDIANA U 704 693-1441

SERIO, JAMES JOSEPH IM AC 78 79 86
47 N. JUSTICE ST.
ENDERSONVILLE 28739
OF PITTSBURGH 704 692-5096

SGROVE, KENNETH EDWARD IM /CD AC 46 53 53
10 7TH AVENUE, WEST
ENDERSONVILLE 28739
NEW YORK U 704 692-2231

CRAWFORD, JOHN LITTLEFIELD,III OPH AC 74 74 71
1701 OLD VILLAGE ROAD
HENDERSONVILLE 28739
BOWMAN GRAY 704 693-1773

DENNISON, HERBERT EUGENE OBG AC 61 68 68
630 FIFTH AVENUE, WEST
HENDERSONVILLE 28739
U OF MICHIGAN 704 692-2258

DOWDESWELL, ROBERT HORTON PTH AC 70 70 78
735 SIXTH AVE., WEST
HENDERSONVILLE 28739
MED U OF SC 704 697-6781

DUNN, JACK NEWTON U AC 60 60 72
512 SIXTH AVENUE, WEST
HENDERSONVILLE 28739
MED U OF SC 704 692-6262

EATON, ROBERT FARRELL ORS AC 66 66 76
1027 FLEMING STREET
HENDERSONVILLE 28739
LA STATE U 704 692-5781

FALVO, SAMUEL CATANZARO CRS /GS AC 52 59 59
511 SIXTH AVENUE, WEST
HENDERSONVILLE 28739
GEORGETOWN U 704 693-9566

FRANCIS, ROBERT DEAN ORS /HS AC 77 78 84
1027 FLEMING STREET
HENDERSONVILLE 28739
DUKE 704 692-5781

GLASSMAN, STUART LEWIS GS /VS AC 73 73 87
502 7TH AVE. WEST
HENDERSONVILLE 28739
U OF MIAMI 704 692-1191

GLEATON, HUGH ELBERT, JR. OPH AC 65 65 73
643 FIFTH AVENUE, WEST
HENDERSONVILLE 28739
MED COLL OF GA 704 692-9146

GLENN, DAVID LOCKE, JR. GS AC 76 76 85
561 FLEMING ST.
HENDERSONVILLE 28739
MED U OF SC 704 693-1778

GODEHN, DONALD JOHN, JR., D AC 72 75 77
506 PARK HILL CT., STE. #1
HENDERSONVILLE 28739
BOWMAN GRAY 704 693-0275

GOODFIELD, PETER CD AC 79 80 86
510 7TH AVENUE, WEST
HENDERSONVILLE 28739
NEW YORK U 704 692-2231

HARLEY, JOHN CRITTENDEN EM AC 73 73 86
1003 FIFTH AVE. WEST
HENDERSONVILLE 28739
U OF NC 704 692-8042

HAWK, RODNEY JAMES OTO AC 70 71 77
512 PARK HILL CT.
PO BOX 1065
HENDERSONVILLE 28739
U OF PITTSBURGH 704 693-0706

HELPPIE, JOANNE E. IM AC 83 84 87
510 7TH AVENUE, WEST
HENDERSONVILLE 28739
U OF MICHIGAN 919 692-2232

HENRICHS, CHARLES FP /EM AC 74 84 85
205 THOMPSON ST.
HENDERSONVILLE 28739
LOMA LINDA U 704 693-9632

HILL, PAUL EDWARD IM /FP AC 54 54 56
559 N. JUSTICE STREET
HENDERSONVILLE 28739
DUKE 704 692-0587

HOPKINS, RICHARD GLENN GP AC 55 59 83
P.O. BOX 775, WALKER ST.
COLUMBUS 28722
U OF MICHIGAN 704 894-8266

IRVING, RICHARD CARROLL AN /GER L/RT 41 57 58
RT. #9, 2589 HEBRON RD.
HENDERSONVILLE 28739
DUKE 704 692-9806

JONES, MICHAEL CHARLES GS AC 72 72 82
835 FLEMING STREET
HENDERSONVILLE 28739
U OF NC 704 692-0238

KEPPLER, C. BURTON AN AC 65 66 86
334 BROOKSIDE CAMP RD.
HENDERSONVILLE 28739
LOMA LINDA U 704 692-8688

KING, DUNCAN INGRAHAM C. FP L 35 35 37
506 7TH AVENUE, WEST
HENDERSONVILLE 28739
MED U OF SC 704 693-5331

KINNE, EDMUND RICHARD OBG AC 44 45 77
6007 PERCIVAL RD., #1257
COLUMBIA, SC 29206
LOMA LINDA U 803 782-7727

KIRKLEY, MARGARET ANNE FP AC 68 71 76
518 SIXTH AVENUE, WEST
HENDERSONVILLE 28739
U OF EDINBURGH 704 697-7805

KIRKLEY, SIDNEY EUGENE IM AC 66 66 76
518 SIXTH AVENUE, WEST
HENDERSONVILLE 28739
MED U OF SC 704 697-7805

KRISHINGNER, GENE LAVERE GS AC 65 65 76
ROUTE #8, BOX 81-A
HENDERSONVILLE 28739
LOMA LINDA U 704 693-1729

45. HENDERSON COMPONENT SOCIETY (Continued)

KRUM, RONALD EUGENE FP AC
60 60 70
P. O. BOX 5420
FLETCHER 28732
LOMA LINDA U 704 687-1416

LATOURETTE, KENNETH ABRAM PTH L/RT
39 39 55
P. O. BOX 177
FLAT ROCK 28731
NEW YORK U 704 692-1641

LOVE, DAVID EUGENE OBG AC
65 65 72
513 N. JUSTICE ST.
HENDERSONVILLE 28739
LOMA LINDA U 704 687-0122

LUTZ, JAMES DWIGHT AN AC
45 48 49
401 SIXTH AVENUE, WEST
HENDERSONVILLE 28739
DUKE 704 693-9669

MACKEL, DAVID FREDERICK ORS AC
74 74 83
1027 FLEMING STREET
HENDERSONVILLE 28739
INDIANA U 704 692-5781

MCALEXANDER, DONALD LEE IM AC
81 81 86
56 ARDSLEY AVE.
CONCORD 28025
MED COLL OF GA 704 684-1030

MCCONNACHIE, CHARLES CHRIS. ORS H
61 61 73
1027 FLEMING STREET
HENDERSONVILLE 28739
U OF LONDON 704 692-5781

MILHOLM, RICHARD LEROY FP AC
63 66 67
2305 ASHEVILLE HIGHWAY
HENDERSONVILLE 28739
LOMA LINDA U 704 692-7122

MOORE, PIERCE JONES, JR GS AC
44 47 53
#1 P.J.'S PLACE
HENDERSONVILLE 28739
LOMA LINDA U 704 684-9873

NERNESS, JOHN LAVON OBG AC
63 64 74
513 N. JUSTICE ST.
HENDERSONVILLE 28739
LOMA LINDA U 704 693-0736

PORTER, RICHARD ALLISON FP L/RT
43 47 48
1107 WOODMONT DR.
HENDERSONVILLE 28739
CASE WESTERN RES 704 693-5128

POSSINGER, CLIVE FRANCIS, JR. IM AC
65 65 75
P. O. BOX 217
NAPLES 28760
LOMA LINDA U 704 684-1030

PYLES, JERALD DENNIS IM AC
74 77 78
510 7TH AVENUE, WEST
HENDERSONVILLE 28739
DUKE 704 692-2231

RAIFORD, FLETCHER LINDSAY PD L
41 51 51
1023 FOREST HILL RD.
HENDERSONVILLE 28739
MED COLL OF VA 704 693-3296

REIBOLD, ROBERT J. IM AC
73 75 87
111 TIMBERCREEK RD.
HENDERSONVILLE 28739
U OF IOWA 704 692-3539

ROMEO, BRUNO JOSEPH IM /NM AC
42 51 53
501 SIXTH AVENUE, WEST
HENDERSONVILLE 28739
NEW YORK U 704 693-3483

ROSS, JOHN MARION OBG AC
55 55 63
630 FIFTH AVENUE, WEST
HENDERSONVILLE 28739
MED U OF SC 704 692-2258

SACCO, RUSSELL JOHN IM AC
47 48 76
506 PARK HILL COURT
HENDERSONVILLE 28739
ST U OF NY-BUFF 704 692-3538

SANDBORN, WILLIAM DEAL GS AC
65 67 73
P. O. BOX 5400
FLETCHER 28732
LOMA LINDA U 704 687-1418

SELLERS, PHILLIP ALAN IM AC
57 57 64
510 7TH AVENUE, WEST
HENDERSONVILLE 28739
BOWMAN GRAY 704 692-2231

SHEALY, FRED GRAY, JR. GS /VS AC
72 72 78
561 FLEMING STREET
HENDERSONVILLE 28739
MED U OF SC 704 693-1778

SHETTERLY, ROGER DAVIS OPH AC
67 67 75
1027-B FLEMING STREET
HENDERSONVILLE 28739
U OF CINCINNATI 704 693-4161

SIGMON, LEE MERRELL PTH /DMP AC
72 73 81
121 TIMBER CREEK ROAD
HENDERSONVILLE 28739
MED U OF SC 704 693-6522

SMOLOWITZ, EDWIN LARRY U AC
75 76 84
735 6TH AVE. WEST
HENDERSONVILLE 28739
MED COLL OF VA 704 697-0527

SPENGLER, JOHN ROBERT R AC
53 65 66
PARDEE MEMORIAL HOSPITAL
HENDERSONVILLE 28739
ST LOUIS U 704 693-6522

STOUT, JAMES STEVENS OM /EM AC
57 57 75
E.I. DUPONT DENEMOURS, INC.
BREVARD 28712
MED COLL OF GA 704 885-5349

STRANGE, JOHN NELSON, JR. GS /VS
77 77
561 FLEMING ST.
HENDERSONVILLE 28739
U OF MISSISSIPPI 704 693-1

STRICKLAND, WILLIAM HERMAN,JR. FP
54 54
510 FLEMING STREET
HENDERSONVILLE 28739
BOWMAN GRAY 704 692-8

THOMAS, COLIN EDWARD U
67 67
512 SIXTH AVENUE, WEST
HENDERSONVILLE 28739
LA STATE U 704 692-6

VANDERWERF, JOSEPH NELSON FP
73 74
611 FIFTH AVE., WEST
HENDERSONVILLE 28739
GEO WASHINGTON U 704 692-5

VEAZEY, ALEX H., JR. FP
51 51
1228 CHANTELOUP DR.
HENDERSONVILLE 28739
U OF PENN 704 693-6

VEAZEY, DANIEL BURT FP
81 82
611 FIFTH AVE., WEST
HENDERSONVILLE 28739
U OF NC 704 692-7

VOLK, JAMES VICTOR PD
72 75
722 W. FIFTH AVE.
HENDERSONVILLE 28739
BOWMAN GRAY 704 693-3

WALKER, PAUL CREASY FP
81 82
510 FLEMING ST.
HENDERSONVILLE 28739
BOWMAN GRAY 704 693-7

WEADON, PRESTON STENZ NS
41 51
475 KING WILLIAM ROAD
HENDERSONVILLE 28739
CORNELL U 704 697-6

WILLIAMS, JOHN HOWARD R
64 69
PARDEE MEMORIAL HOSPITAL
HENDERSONVILLE 28739
BAYLOR 704 693-0

WYMAN, JOHN SHELDON EM /IM
36 36
715 FLEMING ST.
HENDERSONVILLE 28739
U OF MICHIGAN 704 693-6

ZINKE, DAVID FP
47 47
PO BOX 40
EDNEYVILLE 28727
LOMA LINDA U 704 685-7

47. HOKE COMPONENT SOCIETY

OFFICERS—**President:** Robert Townsend, Jr., M.D., 504 S. Main St., Raeford 28376 (919 875-5101)
Secretary: Ramniklal J. Zota, M.D., 116 Campus Ave., Raeford 28376 (919 875-8106)

BARTH, GEORGE BITTMAN, II FP AC
82 83 85
405 S. MAIN ST.
P. O. BOX 665
RAEFORD 28376
MED SCH-UMDNJ 919 875-5101

JORDAN, RILEY MOORE FP AC
51 51 53
116 CAMPUS AVENUE
RAEFORD 28376
BOWMAN GRAY 919 875-5151

RICHARDSON, LUCILE WELSH PUD /IM L/RT
43 56 57
355 PEACH STREET
PINEBLUFF 28373
MED COLL OF VA 919 281-3236

RICHER, CHARLOTTE MARTHA PUD /PD AC
46 62 63
DIV. OF HEALTH SERVICES
STE. 506, WACHOVIA BLDG.
FAYETTEVILLE 28301
U OF HEIDELBERG 919 486-1191

TOWNSEND, ROBERT GLENN, JR. FP
61 64
405 S. MAIN ST.
PO BOX 665
RAEFORD 28376
U OF LOUISVILLE 919 875-5

ZOTA, RAMNIKLAL JECHAND FP
71 71
116 CAMPUS AVENUE
RAEFORD 28376
BARODA U 919 875-8

49. IREDELL COMPONENT SOCIETY

OFFICERS—**President:** Stanley F. Sliwinski, M.D., P.O. Box 1460, Statesville 28677 (704 878-2011)
Secretary: Demar A. Neal, III, M.D., 708 Hartness Rd., Statesville 28677 (704 873-1024)

ABELL, JAMES CURTIS PD AC
66 66 73
925 THOMAS STREET
STATESVILLE 28677
U OF NC 704 872-9595

ADAMS, RICHARD WESLEY ORS AC
62 63 68
770 HARTNESS ROAD
STATESVILLE 28677
BOWMAN GRAY 704 873-1851

ALFORD, JAMES DAVID GS /TS AC
66 66 81
427 E. STATESVILLE AVENUE
MOORESVILLE 28115
U OF NC 704 663-4065

BARKER, ROGER WILLIAM OTO /HNS AC
67 69 74
702 HARTNESS ROAD
STATESVILLE 28677
U OF TENNESSEE 704 873-5224

BENFIELD, RONALD WILLIAM ORS
81 86
520 BROOKDALE DR.
STATESVILLE 28677
GEO WASH U 704 872-7

BENTLEY, RALPH LUTHER PD
60 60
332 N. CENTER STREET
STATESVILLE 28677
U OF NC 704 878-2

49. IREDELL COMPONENT SOCIETY (Continued)

VIS, CHARLES ALAN ORS AC
835 DAVIE AVE., STE. 415 69 69 74
TATESVILLE 28677
OWMAN GRAY 704 872-7676

WEN, BENJAMIN CURETON FP AC
O BOX 1460 63 63 69
TATESVILLE 28677
IED U OF SC 704 878-2011

YD, RICHARD ARMISTEAD OBG AC
TATESVILLE MEDICAL GROUP 56 56 63
O BOX 1460
TATESVILLE 28677
OF NC 704 878-2011

ADFORD, JAMES HEDRICK CD /IM AC
708-A DAVIE AVENUE 75 75 81
TATESVILLE 28677
OWMAN GRAY 704 873-1189

NTON, LEWIS FLOYD GS /GYN AC
03 E. CENTER AVE. 58 63 65
O BOX 550
OORESVILLE 28115
EW YORK MED COL 704 664-1414

LHOUN, AUBREY DANIEL IM AC
35 E. STATESVILLE AVE. 83 84 86
OORESVILLE 28115
OF NC 704 663-4443

MPBELL, FRANCIS MICHAEL GS AC
03 E. STATESVILLE AVE. 79 81 86
OORESVILLE 28115
IED U OF SC 704 663-7905

NUPP, TONY WAYNE IM AC
O BOX 729 73 73 73
OORESVILLE 28115
OWMAN GRAY 704 663-5566

SH, DAVID WAYNE FP AC
10 DAVIE AVE. 82 83 80
TATESVILLE 28677
OF NC 704 873-3269

JSEY, ANDREW JACKSON OPH /OTO L
10 VALLEY STREAM ROAD 43 46 56
TATESVILLE 28677
ANDERBILT U 704 873-8337

ERRY, WILLIAM HILL, JR. OBG AC
19 BROOKDALE DR. 56 56 81
TATESVILLE 28677
IED COLL OF GA 704 873-6483

KEY, RICHARD ALLEN END /IM AC
16 GLENEAGLES EAST 63 63 84
TATESVILLE 28677
OLUMBIA U 704 878-2011

NLAP, BENJAMIN EMERSON FP AC
25-C THOMAS STREET 63 63 69
TATESVILLE 28677
OF NC 704 872-7636

KLEY, GEORGE MORGAN, JR. IM AC
10-P STOCKTON STREET 43 60 61
TATESVILLE 28677
OF PENN 704 873-4334

REMAN, FRANK LEROY D AC
06 HARTNESS ROAD 71 78 80
TATESVILLE 28677
ED U OF SC 704 873-0545

GHUM, EDWIN MORTON, JR. OBG AC
O BOX 1460 75 74 80
TATESVILLE 28677
OF NC 704 878-2011

FF, JACOB BENJ. M., JR. U AC
. O. BOX 1727 63 63 73
TATESVILLE 28677
A STATE U 704 873-3766

ODE, THOMAS VANCE, III GS AC
. O. BOX 1068 43 47 49
TATESVILLE 28677
ED COLL OF VA 704 873-7253

ODSON, PHILLIP RICHARD OBG AC
308 DAVIE AVENUE 76 76 81
TATESVILLE 28677
OWMAN GRAY 704 873-1436

EEN, RAY LYMAN OBG AC
216 DAVIE AVE. 72 72 75
TATESVILLE 28677
OWMAN GRAY 704 873-1436

GRIFFIN, THOMAS RAY FP AC
P. O. BOX 328 47 48 50
TROUTMAN 28166
BOWMAN GRAY 704 528-4588

GRIMM, RUBY ANN ON /HEM AC
738 BRYANT ST. 75 77 82
STATESVILLE 28677
WEST VA U 704 873-2219

HAMILTON, BUFORD LINDSAY, JR. FP /GP AC
P. O. BOX 8 61 62 74
STONY POINT 28678
U OF PENN 704 585-2953

HARBERTS, ARTHUR STANLEY OBG AC
P. O. BOX 1460 57 61 74
STATESVILLE 28677
U OF ZURICH 704 878-2011

HARDAWAY, JOHN STEGER FP AC
527 BROOKDALE DR. 52 52 54
STATESVILLE 28677
BOWMAN GRAY 704 872-7429

HARRIS, BRUCE C. GS AC
PO BOX 1460 81 86 87
STATESVILLE MEDICAL GROUP
STATESVILLE 28677
U OF MISSOURI 704 878-2011

HENDERSON, ANDREW MCKNITT, JR. GP AC
252 W. MCLELLAND AVENUE 50 50 52
MOORESVILLE 28115
BOWMAN GRAY 704 664-5477

HENNINGER, JOSEPH BAYLOR IM AC
P. O. BOX 1808 45 45 51
STATESVILLE 28677
NORTHWESTERN U 704 873-7789

HILL, PATRICIA KAYE P AC
P.O. BOX 821 79 80 86
STATESVILLE 28677
U OF NC 704 873-8446

HOLBROOK, JOSEPH SAM IM /CD L
211 N. RACE STREET 32 32 34
STATESVILLE 28677
U OF PENN 704 872-1000

HOLLAND, WALTER BOWLIN OPH AC
IREDELL EYE CLINIC 75 76 83
P. O. BOX 1144
STATESVILLE 28677
BOWMAN GRAY 704 872-4108

IRVING, THOMAS HERBERT AN AC
415 E. BROAD ST. 61 67 73
STATESVILLE 28677
HAHNEMANN 704 872-7364

JARMAN, WAYNE THOMAS GS AC
708 HARTNESS ROAD 74 74 80
STATESVILLE 28677
BOWMAN GRAY 704 873-1024

KEARNS, PAUL RUTHERFORD OBG AC
750-H HARTNESS ROAD 46 46 49
STATESVILLE 28677
BOWMAN GRAY 704 872-6389

KEPLEY, MICHAEL AVERY OBG AC
750-H HARTNESS RD. 80 82 85
STATESVILLE 28677
U OF NC 704 872-6389

KIRKMAN, PAUL MADISON CD /IM AC
740 BRYANT ST. 65 66 70
STATESVILLE 28677
BOWMAN GRAY 704 872-8147

KOGUT, DAVID GENE /IM AC
1835 DAVIE AVE. 75 77 86
STATESVILLE 28677
HAHNEMANN 704 872-2768

KUTNER, WILLIAM A., JR. ORS AC
417 E. STATESVILLE AVE. 70 75 87
MOORESVILLE 28115
DUKE 704 664-1060

KUTTEH, HANNA CONSTANTINE GYN AC
564 BROOKDALE DRIVE 47 51 53
STATESVILLE 28677
AMER.U OF BEIRUT 704 872-6321

LAI, CHI-KWONG CD /IM AC
P. O. BOX 1460 72 74 81
STATESVILLE 28677
NATL CTR-TAIPEI 704 873-0281

LEWIS, DOCKERY DURHAM, JR. PD AC
P. O. BOX 1460 55 55 60
STATESVILLE 28677
BOWMAN GRAY 704 878-2011

LEWIS, NEWMAN MAXVILLE IM AC
P. O. BOX 1460 57 57 64
STATESVILLE 28677
BOWMAN GRAY 704 878-2011

LIEU, CHONG HYUN PD AC
146 E. MCLELLAND AVE. 70 75 87
MOORESVILLE 28115
SEOUL NATL U 704 663-7500

LITTLE, LONNIE MARCUS GP L/RT
206 ST. ANDREWS ROAD 25 25 27
STATESVILLE 28677
JEFFERSON 704 873-7442

MADRY, JAMES THOMAS OBG /GYN AC
519 BROOKDALE DR. 58 58 81
STATESVILLE 28677
MED COLL OF GA 919 663-2564

MCLAIN, BILL REID FP RT
ROUTE #2, BOX 542 55 55 58
MOORESVILLE 28115
BOWMAN GRAY 704 663-3584

MCNABB, JAMES WILLIAM FP AC
602 CARPENTER AVE. 82 83 86
MOORESVILLE 28115
U OF SOU FLORIDA 704 663-7328

MILLER, HERSEY EUGENE OTO /HNS AC
702 HARTNESS ROAD 70 70 78
STATESVILLE 28677
BOWMAN GRAY 704 873-5224

NEAL, DEMAR AUSTIN, III GS /CDS AC
708 HARTNESS ROAD 78 79 84
STATESVILLE 28677
OHIO STATE U 704 873-1024

NICHOLSON, JOHN HARVEY, II IM AC
760-G HARTNESS ROAD 45 45 54
STATESVILLE 28677
MED COLL OF VA 704 873-8368

NIETERS, GERALD FRANCIS DR AC
P. O. BOX 688 66 66 74
MOORESVILLE 28115
ST LOUIS U 704 663-3479

OGBURN, PAUL LANIER GS /TRS AC
STATESVILLE MEDICAL GROUP 46 46 60
PO BOX 1460
STATESVILLE 28677
DUKE 704 878-2011

PARKIN, CHARLES EVAN AN AC
737 ST. CLOUD 63 62 80
STATESVILLE 28677
U OF TENNESSEE 704 873-5661

PETROZZA, JOSEPH ANTHONY GE /IM AC
2601 FINES CREEK DR. 78 80 84
STATESVILLE 28677
JEFFERSON 704 873-1904

PITTMAN, ERIC WILLIAMS PTH AC
IREDELL MEM. HOSP. BOX 1460 66 66 76
STATESVILLE 28677
BOWMAN GRAY 704 873-5661

PRESSLY, DAVID LOWRY FP L
1109 DAVIE AVENUE 42 42 46
STATESVILLE 28677
JEFFERSON 704 872-5671

PRITCHARD, DOUGLAS DUSSEL AN AC
504 CATS PAW LN., RT. 10 72 72 86
STATESVILLE 28677
BOWMAN GRAY 919 873-0281

RAM, BERNARD ALLEN U AC
760 HARTNESS ROAD 78 83 84
STATESVILLE 28677
U OF N DAKOTA 704 873-4741

RAM, CECIL CASPER U AC
774 HARTNESS ROAD 54 54 76
STATESVILLE 28677
MED U OF SC 704 873-3231

RHYNE, JAMES MOODY IM /N AC
757 BRYANT ST. 68 68 75
STATESVILLE 28677
U OF NC 704 873-5658

ROARK, ROGER LEE GS AC
750 E. HARTNESS ROAD 75 75 86
STATESVILLE 28677
BOWMAN GRAY 704 873-2516

49. IREDELL COMPONENT SOCIETY (Continued)

ROBERTSON, JAMES MEBANE GP L
32 32 34
PO BOX 150
HARMONY 28634
TEMPLE U 704 546-7587

ROWE, CHARLES ROY, JR. GS AC
50 50 57
750 HARTNESS ROAD
STATESVILLE 28677
VANDERBILT U 704 873-3929

RYMUZA, JEFFREY IM /PUD AC
74 75 84
PO BOX 1460
OLD MOCKSVILLE RD.
STATESVILLE 28677
HAHNEMANN 704 878-2011

SCHERER, IRVIN GEORGE FP AC
54 57 57
P. O. BOX 7
UNION GROVE 28689
U OF KANSAS 704 539-4731

SERENE, JAMES WILLIAM ORS AC
75 75 81
141 N. KELLY STREET
STATESVILLE 28677
BOWMAN GRAY 704 872-7492

SERENE, MARY BRUCE MCKENZIE AN AC
75 75 83
141 N. KELLY STREET
STATESVILLE 28677
BOWMAN GRAY 704 873-5661

SHAFER, IRVING EVERETT, JR. R AC
49 49 50
P. O. BOX 588
STATESVILLE 28677
MED COLL OF VA 704 873-5661

SHAW, LLOYD ROOSEVELT GYN L/RT
30 30 31
222 N. OAK STREET
STATESVILLE 28677
MED COLL OF VA 704 873-9642

SLIWINSKI, STANLEY FRANCIS,JR. OPH AC
66 66 77
P. O. BOX 1460
STATESVILLE 28677
JOHNS HOPKINS 704 878-2011

SLOAN, ALLEN BARRY GP L/RT
24 24 26
5150 SHARON RD. APT. 554
CHARLOTTE 28210
MED COLL OF VA 704 553-1670

STEGALL, JOHN THOMAS FP L/RT
43 47 48
310 DAVIE AVENUE
STATESVILLE 28677
U OF MARYLAND 704 873-3269

STEVENSON, ROBERT MCL. R AC
59 59 65
743 SPRINGDALE RD., EAST
STATESVILLE 28677
U OF NC 704 872-4306

STEWART, JOHN REAGAN OTO /OPH L
35 35 52
515 WALNUT ST.
STATESVILLE 28677
TULANE U 704 873-6376

STINSON, CHARLES S. IM AC
83 84 87
PO BOX 1460
STATESVILLE 28677
U OF NC 704 878-2011

SWANEY, PAUL EUGENE GS AC
78 79 84
1318 DAVIE AVE.
STATESVILLE 28677
OHIO STATE U 704 872-0182

TEMPLETON, THOMAS BREVARD IM
55 55
521 BROOKDALE DR.
STATESVILLE 28677
JEFFERSON 704 872-3

THOMAS, WILBUR CLYDE PTH
39 39
138 SIGNAL HILL DR. APT. 105
STATESVILLE 28677
U OF MARYLAND 704 872-5

TRITICO, ROCCO JOSEPH DR
76 76
P. O. BOX 803
STATESVILLE 28677
U OF TX-HOUSTON 704 872-4

WALKER, HARRY GORDON FP
49 49
310 DAVIE AVENUE
STATESVILLE 28677
U OF VIRGINIA 704 873-3

WALTERS, HENRY CEPHAS, JR. IM
76 78
509 BROOKDALE DR.
STATESVILLE 28677
MED U OF SC 704 872-6

WEARN, FRANKLIN STAFFORD GS /EM
32 33
P. O. BOX 1746
STATESVILLE 28677
HARVARD 704 872-9

WILLHIDE, MARGARET JANE PD /A
62 62
P. O. BOX 1460
STATESVILLE 28677
MED COLL OF VA 704 873-0

50. JACKSON COMPONENT SOCIETY

OFFICERS—**President:** William L. Aldis, M.D., 48 Hospital Rd., Sylva 28779 (704 586-8971)
Secretary: David Ramsey, M.D., 48 Hospital Rd., Sylva 28779 (704 586-8971)

CHOI-CHUNG, MOON SOOG PM AC
66 83 85
EASTGATE CENTER
SYLVA 28779
EWHA WOMANS U 704 586-5508

CHUNG, IL WHAN U AC
63 73 75
SYLVA UROLOGICAL CLINIC, PA
EASTGATE CENTER
SYLVA 28779
SEOUL NATL U 704 586-5507

CORLEY, MALCOLM OSBOURNE DR AC
68 68 75
ROUTE #1, BOX 391
SYLVA 28779
MED U OF SC 704 586-6371

DOUGLAS, BENJAMIN OTO /HNS AC
75 83 86
103 ASHEVILLE HIGHWAY
SYLVA 28779
U OF NC 704 586-7474

DURR, WALTER JACOB GS L
37 37 52
P. O. BOX 455
SYLVA 28779
DOWNSTATE ME CTR 704 586-6060

EL-BAYADI, NAGUI R. GS AC
57 69 70
SKYLAND MED. BLDG.
SKYLAND DRIVE
SYLVA 28779
U OF EIN SHAMS 704 586-2156

FAULL, CLIFFORD EDWARD ORS AC
74 75 84
3 EASTGATE
SYLVA 28779
SYRACUSE 704 586-5531

GILLIAM, GEORGIA LEILA IM AC
78 82 85
48 HOSPITAL RD.
SYLVA MEDICAL CTR.
SYLVA 28779
U OF INNSBRUCK 919 286-0411

HAN, GWANG SOO OBG AC
63 74 75
19 CENTRAL STREET
SYLVA 28779
SEOUL NATL U 704 586-4096

HEFFINGTON, MARK WILLIAM FP AC
78 79 84
P. O. BOX 510
CASHIERS 28717
U OF TENNESSEE 704 743-2491

HOOPER, ROBERT LESLIE R AC
64 64 72
C. J. HARRIS HOSPITAL, INC.
SYLVA 28779
BOWMAN GRAY 704 586-7000

HURT, JOE PAUL PTH /NA AC
65 65 72
163 MONTEITH BRANCH ROAD
SYLVA 28779
U OF NC 704 586-8721

JACKSON, MURRAY THREADGILL,JR. R AC
51 51 79
P. O. BOX 1043
SYLVA 28779
DUKE 704 586-8941

JONES, FRANK COLLINS, JR. GS
60 60
KILIMANJARO MED. CTR
THE GOOD SAMARITAN FOUNDATION
MOSHI,TANZANIA, E.AFRICA00000
EMORY U 704 586-6

MORGAN, RALPH SILER CD /IM L
41 41
P. O. BOX 668
SYLVA 28779
RUSH MED COLL 704 586-21

NASH, WILL LIGHT FP A
58 58
34 FISHER CREEK ROAD
SYLVA 28779
U OF TEXAS-SW 704 586-40

SECOSAN, CRAIG JOHN OPH A
81 82
PO BOX 517
SYLVA 28779
WASHINGTON U 704 586-21

SERVOSS, RONALD LEE AN A
70 73
P. O. BOX 984
SYLVA 28779
LOMA LINDA U 704 586-89

SERVOSS, SUE ANNE BOYNTON FP /PH A
67 68
P. O. BOX 984
SYLVA 28779
LOMA LINDA U 704 586-40

SMALLWOOD, JAMES CLAYTON OBG /IM A
75 76
10 EASTGATE CENTER
SYLVA 28779
MED COLL OF GA 704 586-21

51. JOHNSTON COMPONENT SOCIETY

OFFICERS—**President:** John F. Zeedick, M.D., P.O. Box 1950, Smithfield 27577 (919 934-5213)
Secretary: Mark E. Mayer, M.D., P.O Box 669, 307 W. Main St., Benson 27504

ALDERMAN, EDWARD HATCHER IM /FP AC
45 45 48
P. O. BOX 278
FOUR OAKS 27524
MED COLL OF VA 919 963-3148

BASS, THOMAS RECTOR FP AC
57 60 61
P. O. BOX 849
CLAYTON 27520
U OF TENNESSEE 919 553-7158

BATTEN, WOODROW IM AC
44 49 49
601-B N. EIGHTH STREET
SMITHFIELD 27577
BOWMAN GRAY 919 934-8977

BYLCIW, STANLEY ROBERT ORS AC
75 77 86
PO BOX 1538
SMITHFIELD 27577
U OF ROMA 919 934-1094

CHEEK, THOMAS SIDNEY IM A
47 47
601-C N. 8TH STREET
SMITHFIELD 27577
MED COLL OF VA 919 934-23

CREECH, JOSEPH JAN IM A
78 80
707 LASSITER ST.
SMITHFIELD 27577
DES MOINES OST 919 934-02

51. JOHNSTON COMPONENT SOCIETY (Continued)

LY, MICHAEL JAMES GS /TRS AC
'06 WILKINS STREET 67 80 81
P. O. BOX 87
SMITHFIELD 27577
NAT U OF IRELAND 919 934-5189

NIEL, THOMAS MANNING PD AC
601 SELMA RD. 51 54 54
PO BOX 568
SMITHFIELD 27577
DUKE 919 934-7123

ILLON, TEJPAL SINGH ORS AC
P. O. BOX 1688 63 73 76
SMITHFIELD 27577
M C OF AMRITSAR 919 934-3091

N, JACK J. FP AC
P. O. BOX 807 68 74 76
CLAYTON 27520
CHINA MED COLL 919 553-5711

ODNO, CHARLES CHRISTIAN FP R
PO BOX 1007 83 85 86
PRINCETON 27569
U OF NC 919 936-2889

RTMAN, EDWIN LONZO IM AC
515 N. EIGHTH STREET 75 78 80
SMITHFIELD 27577
U OF BOLOGNA 919 934-1211

RAHIM, KAISSAR SLEIMEN GS /CDS AC
'12 WILKINS STREET 57 65 66
SMITHFIELD 27577
U OF MONTPELLIER 919 934-2360

HNSON, THOMAS MILTON FP AC
'09 NORTH STREET 57 57 62
SMITHFIELD 27577
U OF NC 919 934-8556

NES, DONNIE HUE, JR. GP AC
P. O. BOX 158 42 42 47
PRINCETON 27569
U OF VIRGINIA 919 936-5171

RDAN, LYNDON KIRKMAN FP AC
P. O. BOX 760 61 61 65
SMITHFIELD 27577
DUKE 919 934-7687

LAL, MADAN OPH AC
925 SELMA RD. 67 82 83
PO BOX 239
SMITHFIELD 27577
M C OF AMRITSAR 919 934-3108

LASSITER, WILL HARDEE, JR. GP L/RT
ROUTE #3, BOX 90 38 38 39
FOUR OAKS 27524
MED COLL OF VA 919 934-8783

LEE, ALLEN HENRY GP AC
P. O. BOX 8 46 47 49
SELMA 27576
JEFFERSON 919 965-3251

MAYER, MARK EDWARD IM AC
307 W. MAIN ST. 82 84 84
BENSON 27504
U OF ILLINOIS 919 894-2011

MOHAMED, ADEL WAGDI U AC
415 N. SEVENTH STREET 65 65 76
SMITHFIELD 27577
CAIRO U 919 934-5955

OLSON, ROBERT MORTIMER OPH L/RT
ROUTE #1, BOX 229-R 32 51 51
KENLY 27542
GEO WASHINGTON U 919 284-2526

PEREZ-SELDEN, ALICE R. GS AC
601-A BERKSHIRE RD. 79 81 86
SMITHFIELD 27577
TEMPLE U 919 934-0281

POTEAT, HUBERT MCNEILL, JR. GS L/RT
P. O. BOX 88 40 40 51
SMITHFIELD 27577
JEFFERSON 919 934-2524

†PREVETTE, JOHN EDGAR OBG AC
601-A EIGHTH STREET 51 51 58
DECEASED - 4-26-87
SMITHFIELD 27577
BOWMAN GRAY 919 934-8548

RANGAR, JITINDER SINGH DR /NM AC
P. O. BOX 58 64 64 82
SMITHFIELD 27577
M C OF AMRITSAR 919 934-8171

SHARMA, DEVENDRA IM AC
P. O. BOX 1690 64 64 74
SMITHFIELD 27577
M C OF AMRITSAR 919 934-5568

SINGH, MANMOHAN GS AC
713 NORTH ST. 60 60 74
PO BOX 1196
SMITHFIELD 27577
M C OF AMRITSAR 919 934-2616

SOX, CARL CAUGHMAN GP L
P. O. BOX 429 32 32 36
KENLY 27542
GEO WASHINGTON U 919 284-4149

STORY, STRATTON ROWLAND OTO AC
P. O. BOX 346 54 59 62
SMITHFIELD 27577
EMORY U 919 934-4355

WHARTON, C. WATSON GP L/RT
201 W. MEADOWBROOK DRIVE 37 37 37
SMITHFIELD 27577
LA STATE U 919 934-8257

WOODALL, LEONARD SCHMICH OBG AC
711 NORTH STREET 56 56 63
SMITHFIELD 27577
U OF NC 919 934-7696

WOODARD, BARNEY LELON GP L
P. O. BOX 129 33 33 35
KENLY 27542
U OF MARYLAND 919 284-3080

WYMAN, ROBERT WEST FP AC
110 WADDELL STREET 67 68 73
SELMA 27576
U OF MICHIGAN 919 965-3055

ZEEDICK, JOHN FRANCIS IVAN AN /PUD AC
P. O. BOX 1950 54 55 85
SMITHFIELD 27577
U OF PITTSBURGH 919 934-5213

ZUBER, THOMAS JOHN FP AC
PO BOX 699 83 84 86
BENSON 27504
U OF NC 919 894-2011

53. LEE COMPONENT SOCIETY

FFICERS—**President:** Pamela K. H. Jessup, M.D., 555 Carthage St., Sanford 27330 (919 774-6518)
Secretary: T. Rupert Ainsley, Jr., M.D., 1007 Carthage St., Sanford 27330 (919 774-4343)

NSLEY, THELLIE RUPERT, JR. IM AC
1007 CARTHAGE ST. 78 81 82
SANFORD 27330
U OF NC 919 774-4343

EXANDER, LAWRENCE MELTON FP AC
555 CARTHAGE STREET 52 54 54
SANFORD 27330
DUKE 919 774-6518

EMER, CHARLES T. ORS AC
PO BOX 1169 74 77 87
1816 DOCTORS' DR.
SANFORD 27330
MED U OF SC 919 775-7232

UE, JOHN FREDERICK FP AC
P. O. BOX 820 51 52 53
SANFORD 27330
GEO WASHINGTON U 919 775-7522

ITLER, LARRY STEPHEN OBG AC
1832 DOCTOR'S DR. 79 79 85
SANFORD 27330
U OF KENTUCKY 919 774-8761

'ERLY, JAMES HAMPTON GP L
P. O. BOX 340 35 35 38
SANFORD 27330
NORTHWESTERN U 919 775-5932

IEESBOROUGH, JOHN DAVIDSON D AC
327 S. HORNER BOULEVARD 75 77 82
SANFORD 27330
DUKE 919 775-7926

LIBERTO, SAMUEL DAVID ORS AC
101 S. VANCE STREET 67 68 76
SANFORD 27330
DOWNSTATE ME CTR 919 776-0551

CLINE, ROBERT SEITZ FP AC
555 CARTHAGE STREET 57 57 61
SANFORD 27330
U OF NC 919 774-6518

COVINGTON, MARTIN CADE FP AC
212 W. MAIN STREET 50 50 51
SANFORD 27330
MED COLL OF VA 919 776-1412

COX, STEPHEN HAMPTON FP /A AC
2208 BROOKWOOD TRAIL 77 84 86
SANFORD 27330
MED COLL OF VA 919 258-6521

DOTTERER, ELIZABETH JAMES IM /GYN L
118 HAWKINS AVENUE 39 39 44
SANFORD 27330
U OF PENN 919 776-5723

DOTTERER, JOHN EMANUEL GER /FP L
118 HAWKINS AVENUE 38 46 46
SANFORD 27330
U OF PENN 919 776-5723

DUMMIT, ELDON STEVEN, JR. PTH AC
P. O. BOX 1378 59 59 72
SANFORD 27330
VANDERBILT U 919 774-2272

EBKEN, RICHARD KEPPLER GS /TS AC
P. O. BOX 1169 68 68 85
SANFORD 27330
U OF PITTSBURGH 919 775-7146

ESPORAS, DEMOSTHENES CAGBALINO U AC
1610 LORD ASHLEY DR. 68 72 75
SANFORD 27330
CEBU INST OF MED 919 775-7146

FOUSHEE, JOHN CALDWELL GS L/RT
1710 CARTHAGE ST. 44 44 53
SANFORD 27330
BOWMAN GRAY 919 775-7146

GANTT, CHARLES BERNARD, JR. DR AC
1606 LORD ASHLEY DR. 66 68 76
SANFORD 27330
U OF ALABAMA 919 774-4100

GIBSON, JAMES FRANKLIN GS /GP AC
1916 WILKINS DRIVE 56 56 63
SANFORD 27330
DUKE 919 776-5191

GOLDMAN, JAMES OSWALD, JR. EM AC
PO BOX 1597 77 78 75
SANFORD 27331
U OF NC 919 774-2260

HALL, WILLIAM ERNEST FP AC
611 WICKER STREET 73 74 84
SANFORD 27330
U OF ILLINOIS 919 774-6023

HARTNESS, WILLIAM RUFUS, JR. FP L
615 CARR STREET 38 38 39
SANFORD 27330
U OF LOUISVILLE 919 775-3491

HOWARD, PAUL OSMON FP AC
555 CARTHAGE STREET 55 57 57
SANFORD 27330
U OF VIRGINIA 919 774-6518

JESSUP, PAMELA KAY H. FP AC
555 CARTHAGE ST. 77 79 75
SANFORD 27330
BOWMAN GRAY 919 774-6518

53. LEE COMPONENT SOCIETY (Continued)

JORDAN, ROBERT CALHOUN, JR. R AC
P. O. BOX 1007 55 55 62
SANFORD 27330
U OF NC 919 776-1210

KABASAN, DENNIS CLARK IM AC
1951 S. HORNER BLVD. 77 79 82
SANFORD 27330
U OF GRAZ 919 774-4123

KESLER, ARCHIE DEAN, JR. OBG AC
109-A S. VANCE STREET 66 66 73
SANFORD 27330
MED COLL OF VA 919 775-2304

LELIEVER, WM. CHARLES OTO AC
1911 K. M. WICKER DR. 74 78 87
SANFORD 27330
QUEENS U 919 774-6829

LITTLE, DOUGLAS JONATHAN IM /CD AC
136-A CARBONTON ROAD 71 71 80
SANFORD 27330
U OF NC 919 776-0719

LUTTERLOH, ISAAC HAYDEN, JR. IM AC
P. O. BOX 1269 52 52 53
SANFORD 27330
JEFFERSON 919 775-3911

LUTTERLOH, ISAAC HAYDEN, SR. IM L
P. O. BOX 1269 21 21 24
SANFORD 27330
JEFFERSON 919 775-3911

MACINTOSH, VICTOR HENRY FP AC
207 E. MAIN ST. 75 78 85
SANFORD 27330
DUKE 919 774-6282

MANGUM, JOHN ROWLAND FP AC
555 CARTHAGE ST. 81 82 86
SANFORD 27330
U OF NC 919 774-6518

MCCONVILLE, ROBERT HOWARD, JR. FP AC
611 WICKER ST. 72 73 80
PO BOX 387
SANFORD 27330
INDIANA U 919 774-6023

MCLEOD, MARY MARGARET PD /A L/RT
P. O. DRAWER 1047 35 35 46
SANFORD 27330
VANDERBILT U 919 775-7642

NAKAMOTO, RONA KEIKO AN AC
722 HIGHLAND DR. 83 83 87
SANFORD 27330
TEXAS TECH U 919 774-2100

OELRICH, AUGUST M. GS L
P. O. BOX 1169 39 47 48
SANFORD 27330
U OF IOWA 919 775-7146

PATE, MARION BUTLER, III GE /IM AC
555 CARTHAGE ST. 81 82 80
SANFORD 27330
BOWMAN GRAY 919 774-4511

PATTERSON, ROBERT WILLIAM FP /A A
110 FIELDS DR. 78 79
PO BOX 1860
SANFORD 27330
U OF NC 919 774-63

REESE, MITCHELL CRAWFORD PD A
555 CARTHAGE STREET 77 78
SANFORD 27330
MED COLL OF VA 919 776-75

SIMMONS, JAMES SLATER FP L/
P. O. BOX 850 34 34
SANFORD 27330
MEHARRY MED COLL 919 775-74

SMITH, ERASTUS, JR. IM A
136-A CARBONTON RD. 73 76
PO BOX 1768
SANFORD 27330
TEMPLE U 919 775-54

STANTON, EDWARD SPIRES GS /TS A
1816 DOCTORS DR. 79 81
P. O. BOX 1169
SANFORD 27330
DUKE 919 775-71

WHITE, WILLIAM HENRY, JR. OBG A
109-A S. VANCE STREET 61 61
SANFORD 27330
U OF NC 919 775-23

WRIGHT, ROBERT L. OPH A
409 CARTHAGE ST. 56 57
SANFORD 27330
U OF MARYLAND 919 776-75

54. LENOIR-GREENE COMPONENT SOCIETY

OFFICERS—**President:** Ray J. Bouzigard, M.D., Doctor's Drive, Kinston 28501 (919 527-7077)
Secretary: Roy N. Everette, M.D., 109 Airport Rd., Kinston 28501 (919 522-4094)

AGSTEN, JOSEPH EDWARD FP AC
107 AIRPORT ROAD 73 73 78
KINSTON 28501
U OF NC 919 527-4146

ATCHLEY, WILLIAM D. IM AC
109 AIRPORT RD. 83 85 86
KINSTON 28501
EASTERN VA 919 522-3661

BAKER, JOAN MARGO OBG AC
105 AIRPORT RD. 79 80 84
KINSTON 28501
U OF NC 919 523-8383

BARKER, MARSHALL JAY OBG AC
400 GLENWOOD AVE. STE. #15 80 81 84
KINSTON 28501
WVA OSTEO SCH 919 527-7208

BEASLEY, CHARLES BRITTON OTO AC
KINSTON CLINIC, NORTH 74 75 79
KINSTON 28501
U OF NC 919 523-0687

BERRY, JOHN, JR. GS AC
PO BOX 1316, DOCTOR'S DR. 80 80 87
KINSTON 28501
HARVARD 919 522-1626

BHOTIWIHOK, PREECHA AN AC
P. O. BOX 1043 70 75 78
KINSTON 28501
U OF ADELAIDE 919 522-7800

BOUZIGARD, RAY JOSEPH R /TR AC
KINSTON CLINIC, NORTH 66 66 76
DOCTORS DRIVE
KINSTON 28501
LA STATE U 919 527-7077

BRADFORD, SUSAN ELLEN PTH /CLP AC
1802 MARSHBURN CIRCLE 67 68 82
KINSTON 28501
BOSTON U 919 522-7141

BROOKS, CHARLES MICHAEL OBG AC
KINSTON CLINIC NORTH 81 81 79
DOCTORS DR., STE. E
KINSTON 28501
BOWMAN GRAY 919 522-3373

CASEY, DENNIS NELSON DR AC
KINSTON CLINIC, NORTH 82 86 81
KINSTON 28501
U OF NC 919 527-7077

CLASSEN, CHARLES HENRY, JR. ORS AC
KINSTON CLINIC, NORTH, STE. F 66 75 76
KINSTON 28501
U OF MARYLAND 919 522-2020

COOPER, EDWIN BRANAN, JR. ORS /PM AC
KINSTON CLINIC, NORTH, STE. F 66 66 78
KINSTON 28501
DUKE 919 522-2020

CRAIG, ISAAC ALAN PTH AC
LENOIR MEMORIAL HOSPITAL 68 68 76
KINSTON 28501
U OF NC 919 522-7141

CRANZ, OSCAR WILLIAM GS L/RT
1605 DUBOSE DR. 31 31 36
PO BOX 1316
KINSTON 28501
MED COLL OF VA 919 523-3677

DALE, FREDERICK PAYNE GS RT
P. O. BOX 1316 46 47 53
KINSTON 28501
TEMPLE U 919 522-1626

DALTON, HORACE MILTON OPH L/RT
KINSTON CLINIC, NORTH 39 48 48
KINSTON 28501
U OF VIRGINIA 919 522-1611

DALY, JAMES KEARNEY DR /P AC
2711 WESTBROOKE DR. 65 65 74
KINSTON 28501
MED COLL OF VA 919 522-3443

DEAN, ROBERT JAMES AN AC
2321 STALLINGS DR. 47 47 79
KINSTON 28501
ST U OF NY-BUFF 919 522-3177

DECLERCK, PAUL ALBERT FP AC
2503 N. QUEEN STREET 75 78 83
KINSTON 28501
U OF BRUXELLES 919 522-3717

DENNIS, PATRICK MICHAEL OPH AC
DOWN EAST EYE CENTER, PA 76 80 81
2104 N. HERRITAGE ST.
KINSTON 28501
GEORGETOWN U 919 523-9599

DICKSON, ROBERT TRULOCK GE AC
806 WESTMINISTER LANE 79 80 86
KINSTON 28501
MED COLL OF GA 919 522-3072

DUBOSE, JOHN MCNEELY TS /GS A
P. O. BOX 1316 59 60
KINSTON 28501
JOHNS HOPKINS 919 522-16

DUMAS, MARK NEAL IM A
313 AIRPORT RD. 81 82
KINSTON 28501
U OF ALABAMA 919 522-30

EVERETT, ROY NATHAN PUD A
109 AIRPORT ROAD 79 80
KINSTON 28501
EASTERN VA 919 522-40

FLOURNOY, JOHN EPPES R A
KINSTON CLINIC, NORTH 66 66
DOCTORS DRIVE
KINSTON 28501
MED COLL OF VA 919 527-70

FOGLEMAN, ROSS LEE, JR. FP A
KINSTON CLINIC 53 55
KINSTON 28501
DUKE 919 527-71

FORD, CHARLES PHILLIP, JR. OM A
5216 EMERALD DRIVE 43 61
EMERALD ISLE, ROUTE #3
MOREHEAD CITY 28557
MED COLL OF VA 919 354-30

GALPHIN, CLAUDE MABRY NEP A
2905 COLONIAL CIRCLE 80 80
KINSTON 28501
MED U OF SC 919 522-57

GILMORE, SAMUEL JOSEPH OBG A
KINSTON CLINIC, NORTH, STE. E 68 68
KINSTON 28501
INDIANA U 919 522-43

HAGINS, DAVID MICHAEL OBG A
KINSTON CLINIC NORTH 81 82
KINSTON 28501
MED COLL OF GA 919 522-43

HARPER, MATT CLEVELAND, JR. GP A
CHERRY HOSP., CALLER BOX 8000 53 55
GOLDSBORO 27530
DUKE 919 522-31

HENDERSON, JOHN PERCY, JR. U A
1701 SABRA DR. 51 51
KINSTON 28501
BOWMAN GRAY 919 527-30

54. LENOIR-GREENE COMPONENT SOCIETY (Continued)

ERRING, CHARLES LEONIDAS IM AC
310 GLENWOOD AVENUE 55 55 61
KINSTON 28501
U OF NC 919 523-0026

OOD, RICHARD THORNTON, JR. AI AC
1203 COUNTRY CLUB DR. 48 48 55
KINSTON 28501
BOWMAN GRAY 919 523-2567

OSEA, ROBERT HAYWOOD OTO /HNS AC
KINSTON CLINIC, SUITE K 73 73 79
KINSTON 28501
TULANE U 919 523-0687

LCOTT, RUPERT WADSWORTH, III IM AC
KINSTON CLINIC NORTH, STE. H 74 76 78
KINSTON 28501
EMORY U 919 522-1404

NG, MICHAEL BRIAN CD /IM AC
313 AIRPORT ROAD 71 71 78
KINSTON 28501
U OF NC 919 522-2578

NOTT, LAWRENCE H., JR. GS /CDS AC
P. O. BOX 1316 72 72 80
KINSTON 28501
BOWMAN GRAY 919 522-1626

ROEGER, RICHARD JAMES GE /IM AC
1802 OXFORD ROAD 78 78 84
KINSTON 28501
SYRACUSE 919 522-0285

UNSTLING, CARL RICHARD EM /GS AC
720 JONES AVENUE 41 42 76
KINSTON 28501
U OF IOWA 919 522-7272

NGLEY, JOHN THOMAS ORS AC
KINSTON CLINIC, NORTH, STE. F 55 55 63
KINSTON 28501
DUKE 919 522-2020

PRADE, BENNETT WATTERSON OBG AC
1901 HAMPTON ROAD 56 63 63
KINSTON 28501
U OF VIRGINIA 919 527-7605

TTLE, EDWIN PAUL FP AC
P. O. BOX 415 80 81 87
PINK HILL 28572
JEFFERSON 919 568-4111

GIRT, MURPHY FRANK, JR. ORS AC
KINSTON CLI., NORTH 64 64 72
KINSTON 28501
U OF NC 919 522-4155

NTZ, RUDOLPH IVEY, JR. OBG AC
1906 STANTON ROAD 67 67 74
KINSTON 28501
U OF NC 919 522-3373

MYERS, DAN ALLEN U AC
KINSTON CLINIC, NORTH 75 76 82
DOCTORS DRIVE
KINSTON 28501
U OF NC 919 527-3043

NYE, SYLVANUS WILLIAM PTH /CLP AC
700 ROUNDTREE STREET 57 58 66
KINSTON 28501
U OF ROCHESTER 919 522-7141

PARKER, SAMUEL LESTER, JR. OBG AC
KINSTON CLINIC, NORTH 42 42 50
KINSTON 28501
GEO WASHINGTON U 919 522-4333

PARROTT, WILLIAM THOMAS, JR. IM L
905 N. QUEEN STREET 43 43 49
KINSTON 28501
JOHNS HOPKINS 919 523-4269

PATE, EUGENE WESLEY, JR. ORS AC
KINSTON CLINIC,NORTH 63 63 70
KINSTON 28501
U OF NC 919 522-4155

PATRICK, SIMMONS ISLER R AC
KINSTON CLINIC, NORTH 50 51 55
DOCTOR'S DRIVE
KINSTON 28501
DUKE 919 527-7077

PIERCE, HUBERT GAINES IM /CD AC
313 AIRPORT ROAD 58 58 65
KINSTON 28501
BOWMAN GRAY 919 522-3072

PULLY, ROSE FP L/RT
318 COLLEGE STREET 51 51 54
KINSTON 28501
U OF PENN 919 523-2569

REECE, ORVIL YOUNG, JR. PD AC
2509 N. QUEEN ST. 75 75 79
KINSTON 28501
U OF ALABAMA 919 522-0335

RIDDICK, GEORGE WALTON, JR. OPH AC
KINSTON CLINIC, NORTH 66 66 72
KINSTON 28501
U OF VIRGINIA 919 522-1611

SABISTON, FRANK, JR. GS /TS AC
KINSTON CLINIC, NORTH 64 64 71
BOX 1316
KINSTON 28501
U OF NC 919 522-1626

SABISTON, WALTER ROBERTS OTO AC
KINSTON CLINIC,NORTH, STE. K 67 67 78
KINSTON 28501
U OF NC 919 523-0687

SALAMEH, KAMAL B. PD /GP AC
2415 W. VERNON AVE. 54 55 70
KINSTON 28501
AMER.U OF BEIRUT 919 522-1261

SENAY, BRUCE ALAN U AC
KINSTON CLINIC NORTH 79 80 85
KINSTON 28501
MED COLL OF PENN 919 527-3043

SPIGNER, PRESCOTT BUSH, JR. ORS AC
P. O. BOX 1062 53 58 59
KINSTON 28501
MED U OF SC 919 522-4155

TEJANO, FELIPE MAZON U AC
KINSTON CLINIC,NORTH 63 63 74
DOCTOR'S DRIVE
KINSTON 28501
U OF PHILIPPINES 919 527-3043

THOMPSON, JOHN HARGETT FP RT
P. O. BOX 220 59 59 62
TRENTON 28585
U OF NC 919 448-4321

TROUTMAN, BELK CONNOR GP AC
P. O. BOX 429 52 52 53
GRIFTON 28530
U OF MARYLAND 919 524-4273

WARD, JOHN CHARLES OM RT
410 LAKE PINES DRIVE 54 54 55
LAGRANGE 28551
U OF NC 919 566-3119

WEST, GEORGE HARPER IM /CD AC
109 AIRPORT ROAD 67 67 74
KINSTON 28501
BOWMAN GRAY 919 522-3661

WILLIAMS, LYNWOOD EARL IM L/RT
2114 HARDEE ROAD 40 40 43
KINSTON 28501
U OF PENN 919 522-3753

WITHERINGTON, DEXTER THOMPSON GS RT
P. O. BOX 1316 48 48 55
KINSTON 28501
HARVARD 919 522-1626

WITHERS, SYDNOR TERRY, SR. D AC
905 N. QUEEN STREET 45 46 56
KINSTON 28501
MED COLL OF VA 919 523-3289

WOOTEN, CECIL WILLIAM, JR. GP L/RT
P. O. BOX 1577 45 45 48
KINSTON 28501
HARVARD 919 523-3496

WRIGHT, WALTER LEE OPH AC
1908 ELEANOR ST. 80 80 86
KINSTON 28501
U OF NC 919 522-1611

55. LINCOLN COMPONENT SOCIETY

OFFICERS—**President:** John R. Gamble, M.D., 108 Doctors' Park, Lincolnton 28092 (704 735-3023)
Secretary: Edwin T. Holloway, M.D., Lincoln Co. Hospital, Box 677, Lincolnton 28092

RI, ABDULLAH NECIP OBG AC
300 LABANS LANE 54 75 75
LINCOLNTON 28092
U OF ANKARA 704 732-0777

NADAY, MAURICE LEWIS FP /CD AC
110 DOCTOR'S PARK 58 58 63
PO BOX 578
LINCOLNTON 28092
U OF NC 704 735-7413

IANG, JOHN SHYUEYI OBG AC
P. O. BOX 715 71 71 79
LINCOLNTON 28092
KAOHSIUNG M COLL 704 732-3346

OLTON, SHARON ANN IM AC
PO BOX 1566 70 72 86
1446 E. GASTON ST.
LINCOLNTON 28092
U OF OREGON 704 732-3348

RONLAND, MURPHY ALAN GP AC
P. O. BOX 488 55 55 59
LINCOLNTON 28092
U OF NC 704 735-3048

CROWELL, GORDON CAMERON IM AC
ROUTE #4, BOX 999 57 57 57
LINCOLNTON 28092
U OF NC 704 735-1430

CRUMLEY, CHARLES EDWIN IM AC
P. O. BOX 1309 70 70 76
LINCOLNTON 28093
U OF NC 704 735-3081

CRUZ, CORAZON SAMODIO R /GP AC
ROUTE #2, BOX 310 61 61 83
LINCOLNTON 28092
FAR EAST U 704 435-4586

FARLEY, DYER JACKSON, JR. GS AC
P. O. BOX 757 55 55 71
LINCOLNTON 28092
LA STATE U 704 735-0481

FITZGERALD, JOHN HILL GP /PD L
626 CLARK DRIVE 38 40 41
LINCOLNTON 28092
U OF VIRGINIA 704 735-8257

GAMBLE, JOHN REEVES, JR. GS /GP AC
P. O. BOX 250 46 46 46
LINCOLNTON 28092
U OF MARYLAND 704 735-3023

GRIGGS, BOYCE POWELL FP AC
334 W. SYCAMORE STREET 43 43 46
LINCOLNTON 28092
BOWMAN GRAY 704 735-5151

LAWING, DANIEL PHILMON GP AC
212 E. WATER STREET 62 62 64
LINCOLNTON 28092
U OF NC 704 735-5888

LEE, JOSEPH DAVID R AC
P. O. BOX 954 68 69 78
LINCOLNTON 28092
TEMPLE U 704 735-6654

LEE, YING HUEY GS AC
P. O. BOX 636 66 66 76
LINCOLNTON 28092
KAOHSIUNG ME COL 704 735-2554

MOFRAD, ALI SABOORTINAT PD /PHO AC
P. O. BOX 1160 66 76 82
LINCOLNTON 28093
U OF TEHRAN 704 735-1441

REID, ROBERT LEARY FP /CD AC
110 DOCTOR'S PARK 54 54 59
P. O. BOX 578
LINCOLNTON 28092
BOWMAN GRAY 704 735-7414

55. LINCOLN COMPONENT SOCIETY (Continued)

REID, ROBERT LEARY, JR. FP AC
110 DOCTOR'S PARK 79 81 83
P. O. BOX 578
LINCOLNTON 28092
BOWMAN GRAY 704 735-7413

SMITH, THOMAS WARREN IM AC
P. O. BOX 1510 64 65 78
LINCOLNTON 28092
ST U OF NY-BUFF 704 735-6939

WILSON, SAMUEL ALLEN GP L/F
710 E. PARK DR. 37 37 4
LINCOLNTON 28092
EMORY U 704 735-85

56. MACON-CLAY COMPONENT SOCIETY

OFFICERS—**President:** Garland King, M.D., Wayah Medical Group, Franklin 28734 (704 524-4427)
Secretary: Trent Johnson, M.D., Angel Community Hosp., Franklin 28734

BAUMRUCKER, JOHN FREDERICK FP AC
P. O. BOX 1060 70 70 70
HIGHLANDS 28741
U OF CINCINNATI 704 526-2125

BERGER, FREDERICK ALLEN PD AC
28 RIVERVIEW STREET, #114 72 72 75
FRANKLIN 28734
ST LOUIS U 704 524-8474

CHOI, SAN HO GS AC
102 DOCTORS BUILDING 63 64 73
FRANKLIN N C 28734
YONSEI U 704 524-7464

FISHER, ERNEST WOODROW FP L/RT
102 GEORGIA ROAD 41 41 47
FRANKLIN 28734
MED U OF SC 704 524-5752

HARMON, DORALEA RYLE FP AC
P. O. BOX 1329 50 62 63
FRANKLIN 28734
U OF WISCONSIN 704 524-5070

KAHN, JOSEPH WILLIAM FP L/RT
P. O. BOX 147 42 42 46
FRANKLIN 28734
U OF CINCINNATI 704 524-4427

MANGUM, CARLYLE THOMAS, JR. GP A
P. O. BOX 429 47 47 4
HIGHLANDS 28741
HARVARD 704 526-21

MARTONE, ARLENE RAE OBG A
28 RIVERVIEW ST., STE. 110 72 73 8
FRANKLIN 28734
LOMA LINDA U 704 335-00

MORRIS, EDWIN LEE FP A
8 RIVERVIEW ST., STE. 201 74 78 7
FRANKLIN 28734
U OF NC 704 369-95

57. MADISON COMPONENT SOCIETY

OFFICERS—**President:** William E. Powell, Jr., M.D., 1 Chestnut St., Mars Hill 28754 (704 689-2581)
Secretary: Lawrence T. Sprinkle, M.D., P.O. Box 218, Weaverville 28787 (704 645-3031)

CATALANO, PHILIP M. D AC
1416 59TH ST. WEST 60 81 86
BRADENTON, FL 33529
U OF PENN 792 293-4000

DUCK, WALTER OTIS FP L/RT
DRAWER 729 43 43 46
MARS HILL 28754
HAHNEMANN 704 689-2411

POWELL, WILLIAM ERNEST, JR. GP A
1 CHESTNUT STREET 50 50 5
MARS HILL 28754
JEFFERSON 704 689-258

59. McDOWELL COMPONENT SOCIETY

OFFICERS—**President:** Paul T. Yun, M.D., 42 Fleming Ave., Marion 28752 (704 652-3351)
Secretary: Nisha Patel, M.D., 100 Medical Court, Marion 28752

ALI, SHAMSHAD PD /NPM AC
1200 MEDICAL CTR. #B 60 74 76
MARION 28752
PRINCE OF WALES 704 652-6386

ALLEN, JOHN O. HENRY FP /IM AC
31 STATE ST. 51 51 53
PO BOX 1189
MARION 28752
BOWMAN GRAY 704 652-5251

CHUNG, JOSEPH YANGSOO GS /GP AC
1200 MEDICAL COURT 66 72 73
MARION 28752
SEOUL NATL U 704 652-5818

DENUNA, VICENTE BOGADOR GS /ABS AC
28 N. LOGAN STREET 64 73 74
MARION 28752
U OF SANTO TOMAS 704 652-5797

DIOQUINO, RENATO MERCADO IM /PUD AC
240 S. MAIN STREET 64 74 76
MARION 28752
U OF SANTO TOMAS 704 652-2214

ELLIS, GEORGE GREENE FP AC
P. O. BOX 789 62 65 66
OLD FORT 28762
U OF LOUISVILLE 704 668-7694

MCCALL, MICHAEL ALVIN FP AC
P. O. BOX 1229 52 53 56
MARION 28752
DUKE 704 433-2492

MCENTIRE, JERRILL LEE FP AC
DRAWER 789 71 71 74
OLD FORT 28762
U OF NC 704 668-7694

MCINTOSH, ARCHIBALD NOCK GP AC
219 S. MAIN STREET 44 48 48
MARION 28752
DUKE 704 652-4211

RAGAZ, FLORIAN JOHN GP /CD AC
315 E. COURT STREET 49 50 54
MARION 28752
U OF WISCONSIN 704 652-4420

RUDD, EUGENE GREGORY OBG AC
PO BOX 1413 77 82 8
MEDICAL COURT SOUTH
MARION 28752
MED U OF SC 704 652-301

TOPPLE, ANE MARIE D AC
600-B MEDICAL COURT 55 57 8
MARION 28752
U OF OSLO

TOPPLE, STANLEY CRAIG ORS AC
600-B MEDICAL COURT 57 57 8
MARION 28752
EMORY U 704 652-331

YUN, PAUL TAJEN GP AC
PO BOX 1284 68 75 7
MARION 28752
U OF SINGAPORE 704 652-335

60. MECKLENBURG COMPONENT SOCIETY

OFFICERS—**President:** Luther W. Kelly, M.D., 1350 S. Kings Dr., Charlotte 28207 (704 372-8750)
Secretary: Donald Schumacher, M.D., 335 N. Caswell Rd., Charlotte 28204 (704 376-4852)
Executive Director: Carolyn Scruggs, 1012 Kings Dr., Ste. 904, Charlotte 28283 (704 376-3688)

ADCOCK, JIMMIE WARREN IM AC
217 TRAVIS AVE. 82 83 82
CHARLOTTE 28204
U OF NC 704 372-3350

ADICKES, GEORGE CARTWRIGHT IM AC
1100 BLYTHE BOULEVARD 45 45 78
CHARLOTTE 28203
MED U OF SC 704 338-4330

ADKINS, HENRY THOMAS, JR. R AC
2114 MARRYAT COURT 65 65 73
CHARLOTTE 28211
MED COLL OF GA 704 371-4056

ALBERGOTTI, JULIAN S., JR. OM /FP AC
SOUTHERN BELL MED. DEPT. 55 55 58
ROOM 414 SNC-PO BOX 30188
CHARLOTTE 28230
U OF NC 704 378-7320

ALBRIGHT, HAROLD DOWE, III IM AC
1851 E. THIRD ST., SW #101 82 83 80
CHARLOTTE 28204
EAST CAROLINA U 704 333-4175

ALEXANDER, HENCY C., JR. IM /PUD RT
5136 STRAWBERRY HILL DR. 49 53 56
CHARLOTTE 28211
DUKE 704 366-6499

ALEXANDER, JAMES FROSST IM /GE AC
3535 RANDOLPH ROAD 63 63 7
CHARLOTTE 28211
MCGILL U 704 365-076

ALEXANDER, JAMES MOSES IM L/R
255 COLVILLE RD. 34 34 3
CHARLOTTE 28207
MCGILL U 704 365-076

ALEXANDER, JAMES PORTER IM /OM AC
DUKE POWER COMPANY 50 50 5
P. O. BOX 33189
CHARLOTTE 28242
U OF PENN 704 373-432

60. MECKLENBURG COMPONENT SOCIETY (Continued)

LLEN, FRED HUNTLEY, JR. N AC 59 59 65
2608 E. SEVENTH ST.
CHARLOTTE 28204
COLUMBIA U 704 377-9323

LMQUIST, PERRY F. PD AC 82 85 87
1700 ABBEY PLACE
CHARLOTTE 28209
U OF VIRGINIA 704 523-7232

LPERT, ERIC DAVID R AC 71 71 80
3535 RANDOLPH ROAD
CHARLOTTE 28211
DUKE 704 365-0343

LTANY, FRANKLIN EDWARD PS AC 52 57 57
2027 RANDOLPH ROAD
CHARLOTTE 28207
DUKE 704 377-3091

NDERSON, JAMES DICK OBG AC 63 63 72
1023 EDGEHILL ROAD, SOUTH
CHARLOTTE 28207
U OF FLORIDA 704 373-1541

NDERSON, RICHARD DAWSON R /NM AC 60 63 78
2001 VAIL AVE.
CHARLOTTE 28207
COLUMBIA U 704 379-5860

NDREWS, D. SCOTT CDS /TS AC 75 75 84
1900 RANDOLPH RD. STE. 206
CHARLOTTE 28207
OHIO STATE U 704 372-1306

NDRINOPOULOS, GEORGE C. OBG /NPM AC 66 66 84
1900 RANDOLPH RD. STE. 804
CHARLOTTE 28207
U OF ATHENS 704 372-5800

RMSTRONG, BEVERLY WELLER OT L/RT 41 48 49
3034 HAMPTON RD.
CHARLOTTE 28207
SYRACUSE 704 377-2267

RNOLD, ROBERT EDGAR FP AC 73 73 79
10724 PARK RD.
CHARLOTTE 28210
U OF MISSISSIPPI 704 542-6577

SRAEL, GERSON U AC 59 66 70
1350 KINGS DRIVE
CHARLOTTE 28207
U OF MARYLAND 704 372-8750

USTIN, WALTER KENNETH, JR. CD AC 77 78 83
1960 RANDOLPH ROAD
CHARLOTTE 28207
MED COLL OF GA 704 373-1503

ACH, PHILIP JOHN ORS AC 66 66 71
120 PROVIDENCE ROAD
CHARLOTTE 28207
U OF WISCONSIN 704 377-0351

AIRD, HARRY HAYNES U L 42 42 44
1012 KINGS DRIVE
CHARLOTTE 28283
WASHINGTON U 704 334-6449

AKER, DAVID STANFORD, II ORS /HS AC 76 77 82
2600 E. 7TH ST.
PO BOX 35228
CHARLOTTE 28235
U OF ARKANSAS 704 372-9820

AKER, JOHN WOODWARD EM /IM AC 71 71 75
CHARLOTTE MEMORIAL HOSPITAL
P. O. BOX 32861
CHARLOTTE 28232
U OF VIRGINIA 704 338-3181

ALE, CHARLES STEPHEN OBG R 82 82 83
2620 CELANESE RD. #H
ROCK HILL, SC 29730
U OF LOUISVILLE 803 324-7606

ALLARD-BARBASH, RACHEL M. NTR AC 80 81 87
1900 BRUNSWICK AVE.
CHARLOTTE 28207
U OF MICHIGAN 704 372-8750

ALLENTYNE, KEITH AN AC 58 00 86
PO BOX 36351
1620 SCOTT AVE.
CHARLOTTE 28236
U OF EDINBURGH 704 377-5772

ARBASH, ANDREW JEFFREY N AC 81 82 87
1900 BRUNSWICK AVE.
CHARLOTTE 28207
NORTHWESTERN U 704 377-9323

BARHAM, BERLIN FRANCIS, JR. CDS /TS AC 71 71 78
301 HAWTHORNE LANE
CHARLOTTE 28204
U OF NC 704 375-8413

BARRETT, GEORGE CARLYLE R AC 52 52 56
958 CHEROKEE ROAD
CHARLOTTE 28207
BOWMAN GRAY 704 371-4056

BARRETT, JOHN ALBERT, JR. IM /RHU AC 54 54 73
3535 RANDOLPH ROAD, #200
CHARLOTTE 28211
DUKE 704 366-8240

BARRINGER, THOMAS AVERY,III FP AC 79 80 83
10724 PARK ROAD, EXT.
CHARLOTTE 28210
U OF NC 704 542-6577

BARTELT, CURTIS FREDERICK FP AC 53 54 75
6725 FAIRVIEW ROAD
CHARLOTTE 28210
TEMPLE U 704 365-0677

BARTHOLOMEW, CYNTHIA L. PD AC 82 83 87
7108 PINEVILLE-MATTHEWS RD.
CHARLOTTE 28226
HAHNEMANN 704 542-1952

BARTON, FORBES MARSHALL, JR. GS AC 63 63 71
2115 E. 7TH ST., STE. 103
CHARLOTTE 28204
U OF TENNESSEE 704 375-3728

BAUCOM, MARY PADGETT IM AC 80 81 84
PO BOX 32861
CHARLOTTE 28232
U OF NC 704 338-3165

BEARD, JOHN NICHOLS OM /PD AC 64 64 70
1350 KINGS DRIVE
CHARLOTTE 28207
U OF NC 704 372-8750

BEDRICK, JAMES JOSEPH OPH AC 77 79 83
1900 RANDOLPH RD., STE. 1016
CHARLOTTE 28207
U OF NC 704 334-2020

BELL, MICHAEL JOHN R /NM AC 63 63 72
2001 VAIL AVENUE
CHARLOTTE 28207
U OF MINN 704 379-5860

BELL, RALPH MONROE IM L/RT 41 41 49
8223 BONDS GROVE CHURCH RD.
WAXHAW 28173
JEFFERSON 704 377-6569

BELLOWS, ROWLAND THOMPSON NS L/RT 30 40 41
3529 PARK ROAD
CHARLOTTE 28209
CORNELL U

BENEDUM, JOHN LOYLE IM AC 73 75 78
7110 LAWYERS RD.
CHARLOTTE 28212
WEST VA U 704 364-7037

BENJAMIN, EUGENE E. N AC 78 85 86
2115 E. 7TH ST., SUITE #101
CHARLOTTE 28204
MCGILL U

BENJAMIN, SANFORD PHILIP PTH /CLP AC 68 68 78
2001 VAIL AVE.
CHARLOTTE 28207
WAYNE STATE U 704 379-5982

BENNETT, WILLIAM TYSON CD /IM AC 65 65 73
3626 LATROBE DR.
CHARLOTTE 28211
TULANE U 704 364-0057

BERKOWITZ, GERALD PHILLIP PD /NPM AC 74 74 85
200 HAWTHORNE LANE
P. O. BOX 33549
CHARLOTTE 28233
U OF TENNESSEE 704 371-4025

BERRYHILL, BRUCE HOLT OTO AC 64 64 72
1600 E. THIRD STREET
CHARLOTTE 28204
U OF NC 704 372-3300

BIGHAM, ROY STINSON, JR. IM L/RT 41 41 46
4000 MCKEE ROAD
MATTHEWS 28105
U OF VIRGINIA 704 846-2233

BLACK, EDWARD BARNWELL R AC 70 70 81
3535 RANDOLPH RD.,STE 102
CHARLOTTE 28211
DUKE 704 365-0343

BLACK, JAMES HAMPTON IM /NEP AC 63 63 69
125 BALDWIN AVE.
CHARLOTTE 28204
BOWMAN GRAY 704 374-1696

BLANK, ROY CRARY IM AC 72 72 87
335 N. CASWELL RD.
CHARLOTTE 28204
U OF MARYLAND 704 376-4852

BLOUNT, CHARLES WHITNER, JR. FP AC 73 75 76
6708 ALBEMARLE ROAD
CHARLOTTE 28212
MED COLL OF GA 704 536-4903

BOATRIGHT, JAMES RICHARD HS /ORS AC 66 66 74
1822 BRUNSWICK AVENUE
CHARLOTTE 28207
WASHINGTON U 704 373-0544

BOEHM, O. ROBERT A /IM AC 73 74 77
1012 KINGS DR., STE. 302
CHARLOTTE 28283
U OF KANSAS 704 332-7731

BOGGS, LAWRENCE KENNEDY U AC 49 54 56
1012 KINGS DRIVE
CHARLOTTE 28283
JEFFERSON 704 333-3825

BOLON, CHARLES GORDON GYN AC 48 56 56
2711 RANDOLPH RD., STE. 512
CHARLOTTE 28207
OHIO STATE U 704 333-4104

BOLZ, EVERETT ARTHUR OTO AC 66 66 73
1350 KINGS DRIVE
CHARLOTTE 28207
OHIO STATE U 704 372-8750

BONGARDT, HENRY F., JR. IM /A AC 56 56 70
7234 LANCER DRIVE
CHARLOTTE 28226
U OF MARYLAND 704 364-6812

BONNER, STEVEN PAUL FP AC 79 79 86
211 S. SHARON AMITY RD.
CHARLOTTE 28211
U OF ARKANSAS 704 663-0261

BOS, JOHN FREMONT PTH /CLP AC 51 55 57
P. O. BOX 220349
CHARLOTTE 28222
MED COLL OF VA 704 846-2552

BOURGEOIS, JOHN ELLIOTT OPH AC 79 82 85
1600 E. THIRD ST.
CHARLOTTE 28204
U OF VIRGINIA 704 372-3300

BOX, PATRICK RHU /IM AC 73 74 85
2310 RANDOLPH ROAD
CHARLOTTE 28207
U OF FLORIDA

BOYD, BASIL MANLY, JR. ORS AC 53 53 58
1822 BRUNSWICK AVENUE
CHARLOTTE 28207
BOWMAN GRAY 704 373-0544

BOYD, JAMES FRANCIS IM /ON AC 74 76 85
125 BALDWIN AVE.
CHARLOTTE 28204
DUKE 704 374-1696

BOYLSTON, JAMES ALAN PTH AC 69 69 75
PRESBYTERIAN HOSP.-PTH
P. O. BOX 33549
CHARLOTTE 28233
DUKE 704 371-4814

BRABSON, JOHN ANDERSON GS /GYN L 39 43 44
1900 RANDOLPH RD. STE. 1004
CHARLOTTE 28207
HARVARD 704 333-0611

BRADFORD, EDWARD AYERS IM AC 76 79 81
201 E. MATTHEWS STREET
MATTHEWS 28105
U OF FLORIDA 704 365-0760

BRADFORD, WILLIAMSON Z., JR. OBG AC 57 57 62
150 PROVIDENCE ROAD
CHARLOTTE 28204
U OF PENN 704 377-0461

BRAWLEY, BOBBY WATSON NS AC 59 59 72
1010 EDGEHILL RD, NORTH
CHARLOTTE 28207
U OF NC 704 376-1605

BRENIZER, ADDISON GORGAS, JR. GS /TS L 40 48 48
1333 QUEENS RD. #101
CHARLOTTE 28207
HARVARD 704 376-4942

60. MECKLENBURG COMPONENT SOCIETY (Continued)

BREWSTER, VANN ALLEN OM AC
DUKE POWER COMPANY 60 60 84
P. O. BOX 33189
CHARLOTTE 28242
MED COLL OF GA 704 373-6192

BRITTIAN, LOWELL ELLIS GP AC
1900 CLOISTER DRIVE 52 52 54
CHARLOTTE 28211
U OF MARYLAND 704 366-1809

BROOKS, WILLIAM LESTER, JR. IM /RHU AC
1851 E. THIRD STREET 47 48 55
CHARLOTTE 28204
DUKE 704 333-4175

BROWN, ANN CARLSON P /CHP AC
1900 RANDOLPH RD., STE. 900 56 56 82
CHARLOTTE 28207
CASE WESTERN RES 704 333-7722

BROWN, CHARLES WILLIAM GYN /OBS L/RT
2127 QUEENS ROAD, EAST 41 41 46
CHARLOTTE 28207
GEORGETOWN U 704 333-9852

BROWN, RONALD LAUCHLIN OBG AC
2711 RANDOLPH RD. STE. 305 74 75 84
CHARLOTTE 28207
MED U OF SC 704 372-8020

BROWN, VASCUE O'NEIL P AC
3532 MOUNTAINBROOK ROAD 65 65 71
CHARLOTTE 28210
BOWMAN GRAY 704 553-1179

BROWNING, DAVID JUDSON OPH AC
1600 E. THIRD ST. 81 82 87
CHARLOTTE 28204 704 371-3138

BRYAN, WILLIAM BLAIR PD AC
1700 ABBEY PLACE 56 56 62
CHARLOTTE 28209
DUKE 704 523-7232

BRYANT, WILLIAM FRANKLIN, JR. PD AC
1700 ABBEY PLACE 58 58 63
CHARLOTTE 28209
DUKE 704 523-7232

BULLINGTON, WALTER GRAHAM OPH /AM AC
4335 COLWICK RD. 57 65 66
CHARLOTTE 28211
MED COLL OF VA 704 364-7400

BULLOCK, WILLIAM ROBERT IM /OM AC
217 TRAVIS AVENUE 68 68 72
CHARLOTTE 28204
U OF TENNESSEE 704 372-3350

BURGESS, WILLIAM PATRICK NEP /IM AC
928 BAXTER STREET 77 78 83
CHARLOTTE 28204
U OF MIAMI 704 374-1321

BURKE, PATRICK PD AC
5950 FAIRVIEW RD. STE. 100 77 78 86
3 FAIRVIEW PLAZA
CHARLOTTE 28210
HAHNEMANN 704 551-4200

BURNS, STANLEY SHERMAN, JR. OTO AC
1600 E. THIRD STREET 48 54 55
CHARLOTTE 28204
HARVARD 704 372-3300

BURQUEST, BRET P AC
9600 PINEVILLE-MATTHEWS RD. 61 61 86
PO BOX 39
PINEVILLE 28134
U OF MIAMI 704 541-0800

BUTER, THOMAS HENRY ORS AC
120 PROVIDENCE ROAD 75 76 81
CHARLOTTE 28207
U OF MICHIGAN 704 377-0351

BYRNE, JOHN JACOB AN AC
PO BOX 32861 78 79 83
CHARLOTTE 28232
ALBANY MED COLL 704 338-2372

CALABRETTA, ARTHUR MATTHEW PS AC
1012 KINGS DR., STE. 706 75 76 82
CHARLOTTE 28283
PENN STATE U 704 333-7791

CALLAWAY, CLIFFORD KAY EM AC
4600 HOLBROOK DR. 70 71 79
CHARLOTTE 28212
U OF OKLAHOMA 704 588-3418

CAMPBELL, JAMES ARCHIBALD OBG AC
1955 RANDOLPH ROAD 60 60 69
CHARLOTTE 28207
U OF NC 704 376-3536

CARMICHAEL, DENNIS D. CHP /P AC
2711 RANDOLPH RD., STE. 205 50 57 58
CHARLOTTE 28207
U OF ABERDEEN 704 372-5238

CARTER, COLEMAN DELYNNE IM AC
217 TRAVIS AVENUE 71 71 76
CHARLOTTE 28204
U OF NC 704 372-3350

CAUDLE, JOHN ALLEN P AC
1900 RANDOLPH RD., STE. 918 67 67 72
CHARLOTTE 28207
BOWMAN GRAY 704 333-7722

CAUGHRAN, JOHN HAMILTON ORS AC
120 PROVIDENCE ROAD 51 58 59
CHARLOTTE 28207
INDIANA U 704 377-0351

CHAMBERS, KENNETH HENLEY OBG AC
700 E. STONEWALL ST., STE. 220 59 60 67
CHARLOTTE 28202
MEHARRY MED COLL 704 377-0711

CHAMBLEE, DONALD VANCE FP AC
211 S. SHARON AMITY ROAD 56 56 61
CHARLOTTE 28211
U OF TENNESSEE 704 366-7586

CHANDLER, JOE THURSTON NEP /IM AC
928 BAXTER STREET 63 63 72
CHARLOTTE 28204
MED U OF SC 704 374-1321

CHAPLIN, CHARLES HAL PS /GS AC
2215 RANDOLPH ROAD 53 53 54
CHARLOTTE 28207
JEFFERSON 704 372-6846

CHAPMAN, CHARLES GRANGER BLB RT
6134 DEVERON DRIVE 40 57 57
CHARLOTTE 28211
MED U OF SC 704 366-2057

CHAPMAN, GEOFFREY SEWALL HEM /ON AC
2400 CLOISTER DR. 75 76 87
CHARLOTTE 28211
U OF CALIF-LA 704 372-8750

CHAPMAN, TODD MASTERS ORS AC
1822 BRUNSWICK AVE. 79 79 77
CHARLOTTE 28207
BOWMAN GRAY 704 373-0544

CHEN, TONG YONG AN AC
PO BOX 33549 68 76 79
CHARLOTTE 28233
KAOHSIUNG M COLL 704 371-4049

CHEWNING, SAMUEL JACKSON, JR. ORS AC
1822 BRUNSWICK AVE. 79 80 84
CHARLOTTE 28207
U OF KENTUCKY 704 372-9820

CHILDERS, MELVIN DAVIS, JR OPH AC
1928 RANDOLPH RD., STE. 109 58 62 62
CHARLOTTE 28207
MED COLL OF VA 704 372-3070

CHRISTOPHER, WILLIAM EDWARD,JR P AC
242 S. COLONIAL AVE. 61 61 68
CHARLOTTE 28207
BOWMAN GRAY 704 375-4405

CHRYSLER, CHARLES OTIS FP AC
3894 E. INDEPENDENCE BLVD. 56 60 60
CHARLOTTE 28205
OHIO STATE U 704 537-5424

CITRON, DAVID SANFORD IM /FP AC
P. O. BOX 32861 44 52 53
CHARLOTTE 28232
WASHINGTON U 704 338-3146

CLARK, JOHN BLUE, JR. EM /IM AC
3830 SILVERBELL DR. 73 74 79
CHARLOTTE 28211
VANDERBILT U 704 371-4160

CLARK, WILLIAM MACKEY R AC
647 LLEWELLYN PLACE 71 72 78
CHARLOTTE 28207
HARVARD 704 371-4058

CLEGG, HERBERT WILLIAMS, II PD /ID AC
2711 RANDOLPH RD. STE. 501 75 76 83
CHARLOTTE 28207
DUKE 704 374-1747

CLINTON, HOWARD LESLIE, JR. FP /EM AC
2001 VAIL AVE. 73 74 7
CHARLOTTE 28207
EMORY U 704 379-591

CLONINGER, TIMOTHY EARL TR AC
P. O. BOX 35291 66 66 7
CHARLOTTE 28235
U OF NC 704 338-227

CLONTZ, TED HAMILTON FP AC
402 E. SUGARCREEK RD. 80 83 8
CHARLOTTE 28213
BOWMAN GRAY 704 596-082

CLOUD, WILLIAM GRAYDON GS /CDS AC
3535 RANDOLPH RD., STE. 201-W 77 77 8
CHARLOTTE 28211
U OF VIRGINIA 704 364-810

COBEY, WILLIAM GRAY PD AC
2024 RANDOLPH ROAD 53 56 5
CHARLOTTE 28207
DUKE 704 375-445

COHEN, ARTHUR R. PTH AC
200 HAWTHORNE RD. 77 77 8
PRESBYTERIAN HOSPITAL
CHARLOTTE 28211
BAYLOR 704 371-481

COLLAWN, THOMAS HERBERT AN AC
1901 RANDOLPH RD. 56 59 61
CHARLOTTE 28207
U OF MARYLAND 704 366-5311

CONARD-CORKEY, ELIZABETH M. PH /GPM L
519 HERMITAGE COURT 29 48 4
CHARLOTTE 28207
U OF MICHIGAN 704 375-7831

CONARD, DAVID LLOYD IM AC
BLACK RIVER HEALTH CENTER 81 82 85
ATKINSON 28421
U OF ROCHESTER 919 283-7783

COOK, JOSEPH WILLIAM TS /CDS AC
1960 RANDOLPH ROAD 68 68 75
CHARLOTTE 28207
DUKE 704 373-1500

COPELAND, DONALD LEE FP AC
ROUTE #1 63 63 66
DAVIDSON 28036
U OF NC 704 892-3723

COPPEDGE, THOMAS OLIVER, JR. DR AC
1900 RANDOLPH RD. 47 47 51
CHARLOTTE 28207
BOWMAN GRAY 704 376-5597

CORLEY, ROBERT WILLIAM IM /CD AC
2700 COUNTRY CLUB LN. 46 46 71
CHARLOTTE 28205
U OF MICHIGAN 704 331-9877

COUNCIL, JOHN CROMARTIE, JR. PD AC
1851 E. THIRD ST., STE. 103 61 61 68
CHARLOTTE 28204
U OF NC 704 333-6659

CRADDOCK, LARRY WAYNE OBG AC
449 N. WENDOVER RD. 72 73 80
CHARLOTTE 28211
U OF ALABAMA 704 376-0360

CRAIN, JACK LEE GYN /END AC
PO BOX 32861 66 66 85
CHARLOTTE 28232
U OF ARKANSAS 704 372-4600

CRANDALL, ROBERT GORDON P AC
1900 RANDOLPH RD. STE. 900 56 56 82
CHARLOTTE 28207
DALHOUSIE U 704 333-7722

CRAVEN, DALLAS CLIFFORD, JR. GS AC
2104 RANDOLPH ROAD 75 79 80
CHARLOTTE 28207
U OF NC 704 377-3900

CULP, JOHN HARRY, JR. GYN AC
401 S. SHARON AMITY ROAD 61 64 71
CHARLOTTE 28211
LOMA LINDA U 704 365-0110

CULPEPPER, FRED CARROLL, III PD AC
1851 E. THIRD ST., STE. 103 67 67 73
CHARLOTTE 28204
LA STATE U 704 333-6659

CULTON, JULIAN CLARK OPH AC
1600 E. THIRD STREET 56 56 63
CHARLOTTE 28204
DUKE 704 372-3300

60. MECKLENBURG COMPONENT SOCIETY (Continued)

CURRY, CLAYTON SMITH GYN L
1309 PLAZA 44 46 50
CHARLOTTE 28205
U OF TENNESSEE 704 376-5698

CUTTINO, JOHN TINDAL PTH L/RT
101 HIGHLAND FOREST DRIVE 36 49 65
MATTHEWS 28105
MED U OF SC 704 847-4957

DALTON, CLAUDETTE ELLIS HARLOE AN AC
3205 GLEN TERRACE 74 82 83
CHARLOTTE 28211
U OF VIRGINIA 704 364-6228

DANIELS, CHARLES A. PTH AC
200 HAWTHORNE LANE 66 70 87
CHARLOTTE 28233
VANDERBILT U

DASHER, GEORGE ALBERT U AC
1333 ROMANY ROAD 73 74 80
CHARLOTTE 28204
MED COLL OF GA 704 372-5180

DAUGHERTY, HARRY KARRICK CDS /TS AC
1960 RANDOLPH ROAD 59 63 65
CHARLOTTE 28207
U OF LOUISVILLE 704 373-1500

DAVENPORT, JOHN EMMETT IM AC
3535 RANDOLPH RD. 74 80 83
CHARLOTTE 28207
U OF NEW MEXICO 704 847-3380

DEHOFF, PHILIP WILLIAM OBG AC
3535 RANDOLPH RD., STE. 105 80 81 84
CHARLOTTE 28211
U OF SOU FLORIDA 704 365-0470

DELTA, BASIL GEORGE GPM /PD AC
249 BILLINGSLEY ROAD 52 60 80
CHARLOTTE 28211
ISTANBUL U 704 375-1885

DEMAS, RONALD CHARLES N /PM AC
2115 EAST 7TH ST.,STE. 101 65 66 72
CHARLOTTE 28204
INDIANA U 704 372-3714

DENNIS, RONALD GREENE OTO AC
3535 RANDOLPH ROAD 71 71 79
CHARLOTTE 28211
BOWMAN GRAY 704 365-0711

DENNY, KEVIN M. P AC
1900 RANDOLPH RD. 80 81 84
CHARLOTTE 28207
CASE WESTERN RES 704 333-7722

DIAZ-BUXO, JOSE ANTONIO NEP /IM AC
928 BAXTER STREET 70 71 75
CHARLOTTE 28204
U OF PUERTO RICO 704 374-1321

DICKERSON, LEON ARCHIBALD, JR. ORS AC
2600 E. 7TH ST. 70 74 78
CHARLOTTE 28204
WEST VA U 704 372-9820

DICKSON, F. KEELS OTO /A AC
485 N. WENDOVER RD. 67 67 74
CHARLOTTE 28211
MED U OF SC 704 366-7921

DILLARD, SAM BOOKER D AC
1900 RANDOLPH ROAD, STE. 312 46 46 50
CHARLOTTE 28207
MED COLL OF VA 704 333-8811

DILLINGHAM, WILLIAM STEPHEN P AC
479 N. WENDOVER RD. 66 66 80
CHARLOTTE 28211
DUKE 704 365-3185

DORENBUSCH, ALFRED ADOLPH OTO L/RT
2734 HAMPTON AVENUE 40 46 46
CHARLOTTE 28207
U OF LOUISVILLE 704 334-0498

DORNBLAZER, GEORGE HENRY P AC
6511 CROSSFIELD LN. 77 78 85
CHARLOTTE 28226
WEST VA U 704 377-4243

DORSETT, JOHN DEWEY, JR. IM /CD AC
1851 E. THIRD STREET 51 51 56
CHARLOTTE 28204
WASHINGTON U 704 333-4175

DOUGLAS, JOHN MUNROE IM L/RT
4107 POMFRET LN. 39 49 50
CHARLOTTE 28211
DUKE 704 333-0125

DOWNS, POSEY EDGAR, JR. OBG AC
1928 RANDOLPH ROAD 52 52 56
CHARLOTTE 28207
BOWMAN GRAY 704 376-1612

DUDLEY, ALLISON JOHNSON PD AC
2317 RANDOLPH ROAD 78 79 77
CHARLOTTE 28207
U OF NC 704 376-5572

DULIN, THOMAS LEROY FP AC
200 GREENWICH RD. 57 57 61
CHARLOTTE 28211
DUKE 704 366-5002

DUNAWAY, HOWARD YATES, III ORS AC
1012 S. KINGS DR., STE. 101 77 79 84
CHARLOTTE 28283
BOWMAN GRAY 704 372-0743

DUPUY, DAVID NORRIS ORS AC
3535 RANDOLPH ROAD 70 71 76
CHARLOTTE 28211
U OF MIAMI 704 365-2111

DUPUY, SAMUEL STUART U AC
301 HAWTHORNE LANE 69 72 76
CHARLOTTE 28204
U OF FLORIDA 704 374-0236

EASTON, EDWARD JAMES, JR. NM /DR AC
PO BOX 32861 69 71 77
CHARLOTTE 28232
TUFTS U 704 373-2430

EDWARDS, CHARLES HILLMAN, II CDS /TS AC
301 HAWTHORNE LANE 73 73 84
CHARLOTTE 28204
U OF NC 704 375-8413

EDWARDS, ELLISON FRANCIS PS /MFS AC
3535 RANDOLPH ROAD, STE. 204 61 61 68
CHARLOTTE 28211
U OF NC

EICHENBRENNER, TIMOTHY JOHN PD AC
225 HAWTHORNE LN., STE. 202 79 82 82
CHARLOTTE 28204
EASTERN VA 704 332-8111

EISENBERG, CARL JESSE R AC
2001 VAIL AVE. 75 75 83
CHARLOTTE 28207
DOWNSTATE ME CTR 704 379-5860

ELLIOTT, CHARLES MARTIN CD /IM AC
1960 RANDOLPH ROAD 70 70 77
CHARLOTTE 28207
MED COLL OF VA 704 373-1503

ELLIOTT, JOS. ALEXANDER, JR. D AC
1900 RANDOLPH RD. SUITE 714 44 44 45
CHARLOTTE 28207
U OF MICHIGAN 704 375-0043

ELLIS, CLARENCE ONEIL IM AC
2021 E. 7TH ST. 80 81 85
CHARLOTTE 28204
U OF NC 704 372-9884

ENSOR, ROBERT DALE U AC
1333 ROMANY ROAD 61 61 71
CHARLOTTE 28204
OHIO STATE U 704 372-5180

ESTWANIK, JOSEPH JOHN ORS AC
1516 ELIZABETH AVE. 73 73 78
CHARLOTTE 28204
BOWMAN GRAY 704 334-4663

EUBANKS, WILLIAM MALCOLM, JR. OBG AC
1712 E. FOURTH STREET 54 60 60
CHARLOTTE 28204
MED COLL OF GA 704 375-9074

EVANGELIST, FELIX ANTHONY CDS /TS AC
1900 RANDOLPH RD. STE. 408 58 58 71
CHARLOTTE 28207
GEORGETOWN U 704 333-7731

FADIAL, JOHN MURRAY EM AC
PO BOX 33549 67 67 70
CHARLOTTE 28233
U OF FLORIDA 704 371-4160

FAGAN, JAMES ARTHUR DR /NM AC
PO BOX 33549 66 66 73
CHARLOTTE 28233
MED U OF SC 704 371-4056

FARMER, CHARLES DUDLEY NEP /IM AC
928 BAXTER ST. 58 58 67
CHARLOTTE 28204
INDIANA U 704 374-1321

FARNHAM, ROBERT, III PTH AC
PRESBYTERIAN HOSP 74 75 74
PATHOLOGY DEPT.
CHARLOTTE 28233
U OF PENN 704 371-4814

FEDOR, JOHN MICHAEL CD /IM AC
1960 RANDOLPH ROAD 76 76 84
CHARLOTTE 28207
DUKE 704 373-1500

FEE, BRUCE EDGAR R AC
1350 S. KINGS DRIVE 72 73 79
CHARLOTTE 28207
CREIGHTON U 704 372-8750

FEEZOR, CHARLES NOEL, JR. U AC
3535 RANDOLPH ROAD, STE. 101 62 62 70
CHARLOTTE 28211
BOWMAN GRAY 704 366-4631

FEHRING, THOMAS K. ORS AC
120 PROVIDENCE ROAD 80 80 86
CHARLOTTE 28207
U OF TEXAS 704 377-0351

FELDMAN, WALTER SIDNEY P /LM AC
501 BILLINGSLEY RD. 43 45 86
CHARLOTTE 28211
TUFTS U 704 375-3575

FELKNER, RICHARD S. OTO AC
1600 E. THIRD STREET 60 67 67
CHARLOTTE 28204
WASHINGTON U 704 372-3300

FENNING, ROBERT LAWRENCE ON /ON AC
3535 RANDOLPH ROAD 64 64 69
CHARLOTTE 28211
U OF VERMONT 704 365-0760

FERNANDEZ, CHARLES RAYMOND ID /IM AC
1350 S. KINGS DRIVE 68 68 76
CHARLOTTE 28207
TULANE U 704 372-8750

FERREE, CHARLES ELLIOT IM AC
3535 RANDOLPH RD. 80 82 86
CHARLOTTE 28211
U OF NC 704 365-0760

FINGER, FREDERICK ELI, III NS AC
1900 RANDOLPH RD., STE. 502 76 77 86
CHARLOTTE 28207
VANDERBILT U 704 372-8860

FINK, GARY LEE IM AC
BROWN ST., P. O. BOX 610 83 83 82
FAITH 28041
U OF NC 704 279-2981

FINKLEA, ORION TOWNSEND U AC
1333 ROMANY ROAD 55 63 63
CHARLOTTE 28204
MED U OF SC 704 372-5180

FISHER, EDWARD CARL OBG AC
1023 EDGEHILL ROAD 71 71 78
CHARLOTTE 28207
U OF TENNESSEE 704 373-1541

FISHER, MARSHALL LOUIS P L
140 E. 83RD ST., APT. 11-C 35 35 52
NEW YORK, NY 10028
U OF ILLINOIS 212 535-8747

FLEISHMAN, LAWRENCE MARK IM AC
7110 LAWYER'S ROAD 82 85 86
CHARLOTTE 28211
U OF NC 704 568-6500

FLEMING, LAURENCE EDWIN ABS L
1116 PROVIDENCE ROAD 31 31 34
CHARLOTTE 28207
U OF PENN 704 332-6896

FOLLMER, RONALD LESTER N AC
PO BOX 32861 66 67 76
CHARLOTTE 28232
TEMPLE U 704 338-4053

FORD, MARSHA DEAN EM /IM AC
CHARLOTTE MEM. HOSP. 79 81 85
PO BOX 32861
CHARLOTTE 28232
MED U OF SC 704 338-3181

FORT, LYNN, III GS /TS AC
3535 RANDOLPH ROAD, 201-W 60 60 68
CHARLOTTE 28211
DUKE 704 364-8100

60. MECKLENBURG COMPONENT SOCIETY (Continued)

FOSTER, REX BENTLEY, III AN AC
1200 DILWORTH RD. 80 81 86
CHARLOTTE 28203
U OF IOWA 704 338-2372

FOUST, JOHN WORTH OT AC
3535 RANDOLPH ROAD 55 55 62
CHARLOTTE 28211
U OF NC 704 365-0711

FOX, JOE THOMAS, JR. P AC
1900 RANDOLPH ROAD 60 60 66
CHARLOTTE 28207
U OF NC 704 333-7722

FRAASA, ROBERT CONRAD FP AC
4625 COLONY RD. H 53 56 56
CHARLOTTE 28226
U OF CINCINNATI 704 535-4011

FRASER, DONALD DOYLE D AC
1350 S. KINGS DR. 80 81 85
CHARLOTTE 28207
MED SCH-UMDNJ 704 372-8750

FRASER, ROBERT WELLINGTON, III TR AC
PO BOX 32861 75 77 79
CHARLOTTE 28232
U OF PENN 704 338-2272

FRAZIER, ARNOLD RAY PUD /IM AC
CHARLOTTE MEMORIAL HOSPITAL 69 70 75
P. O. BOX 32861
CHARLOTTE 28232
U OF KENTUCKY 704 331-2121

FRYE, JOSEPH CRAIG R AC
3535 RANDOLPH ROAD, SUITE 102 60 60 69
CHARLOTTE 28211
U OF NC 704 365-0343

GAGE, LUCIUS GASTON, JR. A AC
1350 S. KINGS DRIVE 48 52 53
CHARLOTTE 28207
DUKE 704 372-8750

GALENTINE, PAUL GUY, III OPH AC
3535 RANDOLPH RD., STE. 202 76 77 85
CHARLOTTE 28211
DUKE 704 364-8576

GALLAGHER, JOHN JOSEPH CD /IM AC
1960 RANDOLPH ROAD 68 74 84
CHARLOTTE 28207
GEORGETOWN U 704 373-1503

GARDELLA, JOHN EUGENE PUD AC
125 BALDWIN AVE. 74 75 79
CHARLOTTE 28204
NEW YORK U 704 374-1696

GARMON-BROWN, OPHELIA EUGENIA FP AC
402 E. SUGARCREEK RD. 80 81 79
CHARLOTTE 28213
U OF NC 704 535-8245

GARRISON, ROBERT LEE GS AC
225 HAWTHORNE LANE 44 44 53
CHARLOTTE 28204
BOWMAN GRAY 704 377-1349

GASKIN, ERNEST REED OPH AC
100 QUEENS RD. 51 52 56
CHARLOTTE 28204
EMORY U 704 332-1156

GASKIN, LEWIS REED OPH AC
100 QUEENS RD. 80 84 85
CHARLOTTE 28204
EMORY U 704 332-1156

GAUL, JOHN STUART, JR. HS AC
2600 E. 7TH ST. 46 46 53
CHARLOTTE 28204
TEMPLE U 704 372-9820

GAUNT, GEORGE LOREN, JR. PTH AC
2034 RANDOLPH RD. 82 83 84
CHARLOTTE 28207
YALE 704 372-4600

GAVIGAN, THOMAS JOSEPH GE AC
125 BALDWIN AVENUE 74 75 84
CHARLOTTE 28204
GEORGETOWN U 704 338-6300

GAY, CHARLES HOUSTON PD L/RT
2320 QUEENS ROAD, EAST 33 36 38
CHARLOTTE 28207
DUKE 704 333-7479

GAZAK, JOHN MICHAEL U AC
1900 RANDOLPH RD. STE. 816 74 74 82
CHARLOTTE 28207
U OF PENN 704 334-3033

GESING, BERNARD FRANCIS FP AC
10724 PARK ROAD 79 80 83
CHARLOTTE 28210
MED COLL OF GA 704 542-6577

GIBLIN, THOMAS RICHARD PS AC
1900 RANDOLPH ROAD, #300 55 63 66
CHARLOTTE 28207
EMORY U 704 332-4161

GIBSON, JOHN MCNEILL IM AC
212 S. TRYON ST., STE. 1500 72 72 84
CHARLOTTE 28201
U OF NC 704 333-6544

GILBERT, PAUL PRESSLY ORS AC
2300-B RANDOLPH ROAD 77 78 84
CHARLOTTE 28207
DUKE 704 375-5955

GILL, LOWELL HARLEY ORS AC
1822 BRUNSWICK AVENUE 70 70 77
CHARLOTTE 28207
DUKE 704 373-0544

GILMOUR, MONROE TAYLOR IM L/RT
1300 BAXTER ST., STE. 163 36 41 41
CHARLOTTE 28204
HARVARD 704 375-0287

GLASGOW, DOUGLAS MCKAY IM /GER L
2000 WENDOVER RD. 43 50 51
CHARLOTTE 28211
MCGILL U 704 375-5674

GLOVER, JOHN SNOW OBG AC
1851 E. THIRD STREET 59 59 65
CHARLOTTE 28204
DUKE 704 332-8103

GODWIN, HERMAN ALLEN, JR. HEM /IM AC
2711 RANDOLPH RD. #100 63 63 75
CHARLOTTE 28207
BOWMAN GRAY 704 373-0700

GODWIN, WINSTON YUVAWN, JR. GS AC
2300 RANDOLPH RD. 78 78 86
CHARLOTTE 28207
MED U OF SC 704 376-0327

GOLDBERG, TREVOR IAN OTO AC
1600 E. THIRD STREET 75 78 83
CHARLOTTE 28204
U-WITWATERSRAND 704 372-3300

GOLEMBE, BARRY LOUIS PD /PHO AC
1350 S. KINGS DRIVE 74 75 80
CHARLOTTE 28207
MED COLL OF VA 704 372-8750

GOODMAN, DONALD BRUCE, JR. FP AC
6708 ALBEMARLE RD. 73 75 76
CHARLOTTE 28212
U OF NC 704 536-4903

GRAHAM, DAVID ERIC GP /AM AC
P. O. BOX 459 52 52 54
201 SADIE DR.
MATTHEWS 28105
U OF MARYLAND 704 847-8664

GRAHAM, WALTER RALEIGH OPH L/RT
743 HEMPSTEAD PLACE 40 40 50
CHARLOTTE 28207
U OF MARYLAND 704 334-6014

GRAHAM, WALTER RALEIGH, JR. D AC
RIVERSIDE CLINIC 70 73 77
2005 RIVERSIDE AVE.
JACKSONVILLE, FL 32204
U OF PENN

GRAY, DAVID M. EM AC
732 E. PARK AVENUE 80 80 87
CHARLOTTE 28203
WEST VA U 704 372-7544

GREENE, RALPH LEON, JR. IM AC
3535 RANDOLPH ROAD 70 74 76
CHARLOTTE 28211
WEST VA U 704 365-0760

GREENE, ROBERT HADLEY FP RT
2001 OAKLAWN AVENUE 27 28 65
CHARLOTTE 28216
HOWARD U 704 332-7506

GREENHOOT, JERRY HARVEY NS AC
1010 EDGEHILL ROAD NORTH 62 62 73
CHARLOTTE 28207
U OF CALIF-LA 704 376-1605

GREENMAN, MAXWELL OPH A
309 S. LAUREL AVENUE 67 67 7
CHARLOTTE 28207
NEW YORK U 704 372-43

GREENWOOD, JAMES BROOKS, JR. FP A
PO BOX 18248 44 44 4
4101 CENTRAL AVE.
CHARLOTTE 28218
U OF PENN 704 537-00

GREIG, JOHN HAMILTON AN A
4401 COLWICK ROAD #702 56 56 7
CHARLOTTE 28211
U OF GLASGOW 704 366-94

GRIFFIN, EZRA DANIEL, JR. OBG A
449 N. WENDOVER ROAD 73 73 7
CHARLOTTE 28211
U OF NC 704 364-37

GRIFFIN, WILLIAM RUSSELL, JR. ORS A
3535 RANDOLPH ROAD, STE. 103 64 64 7
CHARLOTTE 28211
BOWMAN GRAY 704 365-21

GRIGG, CLAUD MCNEILL IM /CD A
217 TRAVIS AVENUE 61 61 6
CHARLOTTE 28204
U OF NC 704 372-33

GRIVAS, NICHOLAS ELLSWORTH NS A
1928 RANDOLPH RD. STE. 100 65 65 7
CHARLOTTE 28207
U OF TEXAS-SW 704 377-93

GRODE, MICHAEL JAMES PD A
149 PROVIDENCE ROAD 66 74 7
CHARLOTTE 28207
EMORY U 704 372-65

GROMET, MATTHEW DR A
3535 RANDOLPH ROAD 79 80 8
CHARLOTTE 28211
U OF NY-ST BROOK 704 365-03

GROOVER, CALTON DOUGLAS PTH A
P. O. BOX 32861 62 67 6
CHARLOTTE 28232
MED COLL OF GA 704 331-32

GRUBB, WALTER LEE, JR. DR A
3535 RANDOLPH RD. STE. 102 61 61 7
CHARLOTTE 28211
MED COLL OF VA 704 365-03

GRUHN, WILLIAM BRYANT IM /RHU A
1350 S. KINGS DRIVE 74 75 8
CHARLOTTE 28207
DARTMOUTH U 704 372-87

GUILFORD, WILLIAM BONNER DR A
3535 RANDOLPH RD., STE. 102 73 73 7
CHARLOTTE 28211
U OF NC 704 338-22

HALL, DONALD GAMMON CD A
1960 RANDOLPH ROAD 65 65 7
CHARLOTTE 28207
U OF FLORIDA 704 373-15

HALL, JAMES BRYAN OBG /ON A
CHARLOTTE MEMORIAL HOSPITAL 74 75 8
P. O. BOX 32861
CHARLOTTE 28232
MED U OF SC 704 331-31

HAMILTON, JAMES PRESSLY PDS A
2104 RANDOLPH ROAD 58 58 6
CHARLOTTE 28207
U OF PENN 704 377-39

HAMMER, DONALD EDWIN GS A
2206 CUMBERLAND AVENUE 66 68 7
CHARLOTTE 28203
U OF ROCHESTER 704 375-35

HANNA, RICHARD TINSLEY FP /HYP A
6900 FARMINGDALE DRIVE 76 77 7
CHARLOTTE 28212
MED U OF SC 704 536-13

HANSON, JOHN STEPHEN GE /IM A
2711 RANDOLPH RD. 79 79 8
CHARLOTTE 28207
WASHINGTON U 704 373-07

HARBEN, DOUGLAS JAMES D /IM A
3535 RANDOLPH RD., STE. 101-W 70 71 7
CHARLOTTE 28211
SYRACUSE 704 364-61

60. MECKLENBURG COMPONENT SOCIETY (Continued)

ARBOLD, NORRIS BROWN, JR. CD /IM AC
1960 RANDOLPH ROAD 66 66 71
CHARLOTTE 28207
GEO WASHINGTON U 704 373-1503

ARDMAN, EDWARD FRANCIS GYN /OBS L/RT
1000 HUNTINGTON PARK DRIVE 38 47 47
CHARLOTTE 28211
TEMPLE U 704 366-1962

ARRELL, LONNIE CLAYTON, III OBG AC
150 PROVIDENCE ROAD 72 72 74
CHARLOTTE 28207
U OF NC 704 377-0461

ARRIS, CHARLES THEODORE, JR. AN L/RT
401 FESBROOK COURT 51 51 53
CHARLOTTE 28226
U OF VIRGINIA

ARRIS, CHARLES WALKER CD /IM AC
125 BALDWIN AVE. 60 60 66
CHARLOTTE 28204
U OF NC 704 374-1696

ARRISON, FRANK N.H., JR. OBG AC
449 N. WENDOVER ROAD 73 74 77
CHARLOTTE 28211
MED COLL OF GA 704 364-3760

ARSTON, PHILLIP REED OBG AC
2711 RANDOLPH RD. STE. 512 79 80 84
CHARLOTTE 28207
U OF LOUISVILLE 704 333-4104

ARTLE, EDGAR OWEN EM AC
PO BOX 32861 81 82 83
CHARLOTTE 28232
PENN STATE U 704 334-8419

ATTEN, HOMER PAUL, JR. DR AC
PRESBYTERIAN HOSP. DEPT. RAD 73 73 79
P. O. BOX 33549
CHARLOTTE 28233
WEST VA U 704 371-4057

AUCH, THOMAS WRAY ON /HEM AC
1350 S. KINGS DRIVE 72 77 79
CHARLOTTE 28207
NORTHWESTERN U

AWES, ANNE COLCLOUGH N AC
2608 E. SEVENTH ST. 76 78 83
CHARLOTTE 28204
U OF NC 704 377-9323

AWES, SAMUEL PINCKNEY, III U AC
1333 ROMANY ROAD 67 67 75
CHARLOTTE 28204
VANDERBILT U 704 372-5180

AWES, STEPHEN JAMES, JR. ID /IM AC
1928 RANDOLPH RD. STE. 210 76 77 83
CHARLOTTE 28210
U OF NC 704 372-3350

AYES, HUGH HARRISON,JR. R AC
P. O. BOX 33549 49 60 60
CHARLOTTE 28233
U OF TENNESSEE 704 371-4000

EINIG, CHARLES FREDERICK ORS /GS AC
1822 BRUNSWICK AVENUE 55 61 61
CHARLOTTE 28207
SYRACUSE 704 373-0544

ERNDON, WILLIAM MAUNEY, JR. CD /IM R
1350 S. KINGS DR. 81 82 83
CHARLOTTE 28207
U OF NC 704 372-8750

ERRIN, ROBERT ALEXANDER MFS AC
1628 E. MOREHEAD 79 80 81
CHARLOTTE 28207
U OF NC 704 376-0216

ERSHEY, CHARLES DANA, JR. AN AC
PO BOX 32861 70 73 77
CHARLOTTE 28232
U OF PENN 704 554-0239

ESS, PHILIP JOSEPH CDS /TS AC
1960 RANDOLPH ROAD 68 68 77
CHARLOTTE 28207
OHIO STATE U 704 373-1500

EYER, ROBERT ALLAN PUD /IM AC
2711 RANDOLPH ROAD, SUITE 100 73 74 80
CHARLOTTE 28207
U OF TEXAS-SW 704 373-0700

HICKEY, DOCIA ELIZABETH NPM /PD AC
CHARLOTTE MEM. HOSP. 75 75 80
PO BOX 32861
CHARLOTTE 28232
BOWMAN GRAY 704 338-3156

HICKS, J. ROBINSON ORS AC
1350 KINGS DRIVE 53 60 61
CHARLOTTE 28207
U OF VIRGINIA 704 372-8750

HIESTAND, FITZ GERALD, JR. GE /IM AC
1350 S. KINGS DRIVE 56 58 61
CHARLOTTE 28207
U OF VIRGINIA 704 372-8250

HILL, DENNIS LEROY N AC
1900 BRUNSWICK AVENUE 66 66 73
CHARLOTTE 28207
U OF SOU CALIF 704 377-9323

HINSHAW, HOWARD THOMAS END /IM AC
1350 S. KINGS DRIVE 66 66 74
CHARLOTTE 28207
U OF NC 704 372-8750

HIPP, EDWARD REGINALD, JR. GS /TS AC
1350 S. KINGS DRIVE 47 47 47
CHARLOTTE 28207
U OF VIRGINIA 704 372-8750

HISLEY, JOHN CHARLES OBG /NPM AC
PO BOX 32861 65 65 75
CHARLOTTE 28232
U OF MARYLAND 704 331-3149

HOBSON, JACK BROWN IM /HEM AC
125 BALDWIN AVE. 57 57 63
CHARLOTTE 28204
U OF NC 704 374-1696

HODGES, HORACE HAYDEN IM /GE L/RT
ROUTE #1, BOX 102-L 40 40 47
PINEVILLE 28134
U OF PENN 704 588-0828

HOLBROOK, WILLIAM DOUGLAS P L/RT
34 LUVAN WAY 46 47 50
DEBORDIEU COLONY
GEORGETOWN, SC 29440
BOWMAN GRAY

HOLLADAY, GLENN CLYDE PD AC
2711 RANDOLPH RD., STE. 301 80 82 84
CHARLOTTE 28207
MED U OF SC 704 332-6332

HOLLEMAN, JEREMIAH HENRY, JR. GS /VS AC
1350 S. KINGS DR. 71 71 85
CHARLOTTE 28207
TULANE U 704 372-8750

HOLLENBECK, JOHN IVOR GS AC
3535 RANDOLPH RD.,201-W 68 68 76
CHARLOTTE 28211
OHIO STATE U 704 364-8100

HOLLINGSWORTH, WALTER C. OBG AC
1928 RANDOLPH ROAD 59 59 64
CHARLOTTE 28207
BOWMAN GRAY 704 376-1612

HOLSCHER, EDWARD CHARLES CHP /P AC
1900 RANDOLPH ROAD, SUITE 918 65 65 76
CHARLOTTE 28207
U OF MISSOURI 704 333-7724

HONEYCUTT, DANNY MORRIS FP AC
10724 PARK ROAD 79 80 83
CHARLOTTE 28210
BOWMAN GRAY 704 542-6577

HOOD, CHRISTOPHER KENNEDY OBG AC
1712 E. FOURTH STREET 54 54 59
CHARLOTTE 28204
JEFFERSON 704 375-9074

HOPE, HAROLD PAGAN, JR. GS AC
2300 RANDOLPH ROAD 67 73 75
CHARLOTTE 28207
MED U OF SC 704 376-0327

HORNER, DONALD STANLEY OBG /PD AC
1350 S. KINGS DRIVE 75 75 83
CHARLOTTE 28207
U OF MARYLAND 704 372-8750

HORTON, JAMES MARVIN AC
1350 S. KINGS DR. 77 84 87
CHARLOTTE 28207
DUKE 704 372-8750

HOWE, HAROLD RAGAN, JR. CDS R
811 MUSEUM DR. 80 81 80
CHARLOTTE 28207
BOWMAN GRAY 919 761-1699

HOWELL, NELSON NEIL OTO /HNS AC
3535 RANDOLPH ROAD 66 66 73
CHARLOTTE 28211
U OF NC 704 365-0711

HUEY, THOMAS WALKER, JR. GYN L
1012 KINGS DRIVE 42 43 50
CHARLOTTE 28283
U OF PENN 704 375-4216

HUMPHREY, JOHN EDWARD, JR. P AC
2040 RANDOLPH RD. 75 76 86
CHARLOTTE 28207
DUKE 704 334-0875

HUMPHRIES, DAVID SCOTT ORS AC
1350 S. KINGS DRIVE 56 67 68
CHARLOTTE 28207
MED COLL OF VA 704 372-8750

HUNTLEY, DANNY EDWARD FP AC
6708 ALBEMARLE RD. 77 78 85
CHARLOTTE 28212
BOWMAN GRAY 704 536-4903

HUTCHESON, JAMES STERLING AI AC
1350 S. KINGS DRIVE 61 68 68
CHARLOTTE 28207
JOHNS HOPKINS 704 372-8750

HUTCHINS, KENNETH RAYMOND U AC
1350 S. KINGS DRIVE 63 63 72
CHARLOTTE 28207
U OF MICHIGAN 704 372-8750

HUTCHINSON, FORNEY, III ORS AC
1822 BRUNSWICK AVENUE 68 68 77
CHARLOTTE 28207
DUKE 704 373-0544

IRONS, GEORGE VERNON, JR. CD /IM AC
1350 S. KINGS DRIVE 56 64 66
CHARLOTTE 28207
U OF ALABAMA 704 372-8750

JABEN, SCOTT LEONARD OPH AC
309 S. LAUREL AVE. 77 78 83
CHARLOTTE 28207
U OF MIAMI 704 372-4380

JACKSON, CHARLES THOMAS OBG AC
5950 FAIRVIEW RD., STE. 100 65 66 85
3 FAIRVIEW PLAZA
CHARLOTTE 28210
U OF ROCHESTER 704 551-4200

JACOBS, WILLIAM EDWARD PS /GS AC
2215 RANDOLPH ROAD 69 70 77
CHARLOTTE 28207
U OF PENN 704 372-6846

JAMES, RICHARD THOMAS, JR. IM AC
217 TRAVIS AVENUE 43 54 54
CHARLOTTE 28204
U OF PENN 704 372-3350

JEMSEK, JOSEPH GREGORY ID /IM AC
1350 S. KINGS DR. 74 75 80
CHARLOTTE 28207
U OF ILLINOIS 704 372-8750

JETT, HARRIMAN HARDING GS AC
2104 RANDOLPH ROAD 67 67 72
CHARLOTTE 28207
MED U OF SC 704 377-3900

JOHNSTON, DAVID SOMERS ORS AC
1822 BRUNSWICK AVENUE 61 66 67
CHARLOTTE 28207
U OF TENNESSEE 704 373-0544

JOHNSTON, HARVEY WYLIE U AC
101 W. T. HARRIS BLVD. 52 56 56
CHARLOTTE 28213
GEO WASHINGTON U 704 547-1392

JOHNSTON, JOHN GARDNER PD AC
1700 ABBEY PLACE 69 69 75
CHARLOTTE 28209
U OF NC 704 523-7232

JONES, JAMES BUCKNER IM /PUD AC
3535 RANDOLPH ROAD 79 84 85
CHARLOTTE 28211
VANDERBILT U 704 365-0760

JONES, JERRY ANTHONY IM /GE AC
2021 E. 7TH ST. 74 79 86
CHARLOTTE 28204
MEHARRY MED COLL

60. MECKLENBURG COMPONENT SOCIETY (Continued)

JONES, O. HUNTER OBG L
232 PERRIN PLACE 33 33 37
CHARLOTTE 28207
COLUMBIA U 704 333-0455

JOYCE, DONALD GEORGE ORS AC
3535 RANDOLPH ROAD, SUITE 103 63 67 68
CHARLOTTE 28211
U OF OTTAWA 704 365-2111

JUSTIS, HOMER RODEHEAVER U AC
1012 KINGS DRIVE 46 51 53
CHARLOTTE 28283
U OF VIRGINIA 704 334-6449

KALINA, KENT MICHAEL P AC
2915 PROVIDENCE RD., STE. 400 79 80 83
CHARLOTTE 28211
U OF NC 704 376-2810

KAMP, MAURICE ARTHUR PH /GPM
1400 DREXEL PLACE 32 33 63
CHARLOTTE 28209
MED COLL OF VA 704 525-3468

KAUFMAN, MICHAEL DAVID N /GPM AC
126 COTTAGE PLACE 71 72 80
CHARLOTTE 28207
DUKE 704 334-7311

KELEMEN, WILLIAM ARTHUR IM AC
1928 RANDOLPH ROAD 50 59 59
CHARLOTTE 28207
OHIO STATE U 704 334-1086

KELLAM, DONALD SWIFT, JR. ORS AC
120 PROVIDENCE ROAD 55 60 61
CHARLOTTE 28207
GEO WASHINGTON U 704 377-0351

KELLER, GUY OTIS GS AC
3535 RANDOLPH RD., STE. 200-A 44 55 55
CHARLOTTE 28211
U OF VIRGINIA 704 364-2500

KELLY, LUTHER W., JR. END /NM AC
1350 S. KINGS DR. 48 54 55
CHARLOTTE 28207
HARVARD 704 372-8750

KENNEY, RICHARD DREW PD /ADL AC
1000 BLYTHE BLVD. 67 68 83
PO BOX 32861
CHARLOTTE 28234
GEORGETOWN U 704 338-3156

KINGERY, DAVID REDDING ORS AC
1350 S. KINGS DR. 80 81 87
CHARLOTTE 28207
U OF FLORIDA 704 372-8750

KIRSCH, MARK TR AC
3041 VALENCIA TERRACE 69 76 84
CHARLOTTE 28211
U-WITWATERSRAND 704 371-4189

KLEIN, DEYSY MARTINEZ AN AC
1901 RANDOLPH RD. 62 62 69
CHARLOTTE 28207
U OF MADRID 704 375-5126

KLIMAS, JOHN THOMAS A /PD AC
2711 RANDOLPH RD. 73 73 80
CHARLOTTE 28207
ST U OF NY-BUFF 704 372-7900

KNISH, EDWARD J., JR. IM AC
PO BOX 189 83 86 87
MATTHEWS 28105
VANDERBILT U 704 365-0760

KOCAK, THEODORE JOSEPH FP AC
P. O. BOX 11438 61 62 62
CHARLOTTE 28220
TEMPLE U 704 553-9474

KOCONIS, CHRIST ALEXATOS OTO /HNS AC
1350 KINGS DRIVE 62 62 70
CHARLOTTE 28207
OHIO STATE U 704 372-8750

KOSSOVE, ALBERT ANTHONY IM /NTR L
1530 ELIZABETH AVENUE 38 40 41
CHARLOTTE 28204
MED COLL OF VA 704 377-5984

KOSSOVE, IRENE LEVY IM /GYN L
1530 ELIZABETH AVENUE 39 40 41
CHARLOTTE 28204
MED COLL OF VA 704 377-5984

KOURI, EDWARD WILLIAMS R AC
3535 RANDOLPH RD., STE. 102 68 68 74
CHARLOTTE 28211
U OF NC 704 365-0343

†KOURI, MOSES LAWRENCE, JR. FP AC
6900 FARMINGDALE DR. 62 62 66
DECEASED - 3-21-87
CHARLOTTE 28212
U OF NC 704 536-1362

KOURI, WILLIAM HERBERT FP AC
6900 FARMINGDALE DR. 61 61 64
CHARLOTTE 28212
U OF NC 704 536-1362

KRAMER, NORMAN JOHN IM /END AC
3535 RANDOLPH ROAD, STE. 300 65 73 75
CHARLOTTE 28211
JEFFERSON 704 365-0760

KREMERS, SCOTT ALEX PUD /CD AC
1928 RANDOLPH ROAD, STE. 206 74 75 83
CHARLOTTE 28207
INDIANA U 704 375-9932

KRESHON, MARTIN JOHN OPH AC
1600 E. THIRD STREET 54 57 61
CHARLOTTE 28204
M C OF WISCONSIN 704 372-3300

LACKEY, ROBERT STEVENSON R /FP AC
2118 PINEWOOD CIRCLE 48 48 52
CHARLOTTE 28211
JEFFERSON 704 365-0343

LADD, ROBERT JULIUS GS /EM AC
3323 WINDBLUFF DR. 64 64 71
MATTHEWS 28105
HOWARD U 704 542-8271

LAIRD, WILLIAM KENNETH PS AC
1900 RANDOLPH RD. STE. 300 68 69 75
CHARLOTTE 28207
U OF TORONTO 704 332-4161

LAND, MICHAEL ROY OBG AC
150 PROVIDENCE ROAD 80 80 80
CHARLOTTE 28207
INDIANA U 704 377-0461

LANDIS, EDWARD EVERETT, JR. PUD /IM AC
1350 KINGS DRIVE 62 62 70
CHARLOTTE 28207
U OF LOUISVILLE 704 372-8750

LANE, JERALD PAUL P AC
1900 RANDOLPH RD., STE. 918 63 63 75
CHARLOTTE 28207
U OF MISSOURI 704 333-7722

LARGE, HIRAM LEE, JR. PTH L/RT
7443 WINDYRUSH ROAD 42 42 50
MATTHEWS 28105
VANDERBILT U 704 542-9830

LARKIN, GLENN MICHAEL FOP AC
4000-E PROVIDENCE RD. 66 68 78
CHARLOTTE 28211
U OF LOUVAIN 704 364-4718

LASSITER, KENNETH ROBERT LEE NS AC
1900 RANDOLPH RD., SUITE 502 61 61 77
CHARLOTTE 28207
DUKE 704 372-8860

LASTER, ANDREW JAY RHU /IM AC
125 BALDWIN AVE. 79 79 86
CHARLOTTE 28204
JOHNS HOPKINS 704 338-6300

LAWRENCE, PATRICIA ANN OBG AC
1012 S. KINGS DR. STE. 624 50 54 54
CHARLOTTE 28283
U OF VIRGINIA 704 372-6201

LAYTON, DENNIS SHELDON IM AC
7110 LAWYERS ROAD 76 77 80
CHARLOTTE 28212
WEST VA U 704 568-6500

LEE, YEN CHICH AN AC
PO BOX 33549 68 73 76
CHARLOTTE 28233
CHINA MED COLL 704 371-4049

LEFKOWITZ, DAVID, III PDA /PD AC
2711 RANDOLPH RD. STE. 400 65 65 78
CHARLOTTE 28207
TULANE U 704 372-7900

LENNON, DAVID STANCIL AN AC
2221 HOGAN CT. 75 75 86
MATTHEWS 28105
U OF NC 704 371-4049

LESSER, PHILIP STEVEN CHN /N AC
2608 E. SEVENTH ST. 67 67 77
CHARLOTTE 28204
MED U OF SC 704 377-9323

LEWIS, ANDREW JACKSON, JR. OBG A
1900 RANDOLPH RD., STE. 602 57 58
CHARLOTTE 28207
U OF ALABAMA 704 377-56

LEWIS, DANIEL MICHAEL D A
3535 RANDOLPH RD. STE. 101-W 80 81
CHARLOTTE 28211
U OF NC 704 364-61

LINDERMAN, JAMES ALAN PD A
167-L S. TRADE ST. 76 76
PO BOX 2564
MATTHEWS 28106
INDIANA U 704 847-05

LINDOW, LARRY GENE IM /GP A
6301 MORRISON BLVD. 68 69
CHARLOTTE 28211
U OF ILLINOIS 704 365-39

LINK, MELVIN ROBERT OTO L/F
3323 STANWYCK COURT 42 50
CHARLOTTE 28211
U OF LOUISVILLE 704 364-21

LITTLE, DONALD FORREST OBG A
1350 KINGS DRIVE 59 65
CHARLOTTE 28207
U OF ALABAMA 704 372-87

LOGAN, WILLIAM SUMNER D A
1350 S. KINGS DRIVE 68 68
CHARLOTTE 28207
DUKE 704 372-87

LONG, WILLIAM JOSEPH FP A
402 E. SUGAR CREEK RD. 80 82
CHARLOTTE 28213
MED COLL OF GA 704 596-08

LOPER, PETER LOUIS PUD /OM A
PO BOX 33189 76 77
DUKE POWER
CHARLOTTE 28242
CASE WESTERN RES 704 373-43

LOVEJOY, STEVEN ARNET ORS A
1012 S. KINGS DR. 80 81
CHARLOTTE 28283
WEST VA U 704 372-07

LOVELL, WILLIAM FIGGATT A A
2711 RANDOLPH RD. STE. 400 45 45
P. O. BOX 221189
CHARLOTTE 28207
DUKE 704 372-79

LUCAS, ROBERT THEODORE, JR. PD A
1350 KINGS DRIVE 54 59
CHARLOTTE 28207
TULANE U 704 372-87

LYDAY, WILLIAM DAVIE TS /GS A
225 HAWTHORNE LN., STE. 301 53 54
CHARLOTTE 28204
DUKE 704 377-59

LYMBERIS, MARVIN NICHOLAS OPH L/R
2514 RED FOX TRAIL 41 47
CHARLOTTE 28211
TULANE U 704 366-62

MACAULAY, HUGH HOLLEMAN,III EM /FP A
3738 ABINGDON ROAD 74 75
CHARLOTTE 28211
MED U OF SC 704 371-41

MACDONALD, WILLIAM WEBSTER OBG A
1023 EDGEHILL DRIVE 68 68
CHARLOTTE 28207
SYRACUSE 704 373-15

MALLONEE, MICHAEL STEVEN OTO /HNS A
101 W.T. HARRIS BLVD.EAST 73 74
SUITE C-206
CHARLOTTE 28213
U OF MIAMI 704 547-16

MANGE, STEPHEN KENNEDY PD A
PO BOX 1570 80 83
DAVIDSON 28036
U OF SOU ALA 704 892-79

MARROUM, MARIE-CLAIRE PTH A
PO BOX 32861 68 76
CHARLOTTE MEM. HOSP.
CHARLOTTE 28232
U OF ST JOSEPH 704 338-22

MARSHALL, CHARLES FOSTER, JR. OPH A
1012 S. KINGS DRIVE 69 69
CHARLOTTE 28283
MED U OF SC 704 376-65

60. MECKLENBURG COMPONENT SOCIETY (Continued)

MARTIN, EDWARD STEPHENS PD AC
2711 RANDOLPH ROAD, SUITE 501 69 69 72
CHARLOTTE 28207
U OF PENN 704 374-1736

MASSEY, CHARLES CASWELL, JR. CRS AC
2028 RANDOLPH ROAD 61 61 67
CHARLOTTE 28207
DUKE 704 333-1259

MASSEY, THOMAS NEELY, JR. CD AC
217 TRAVIS AVENUE 55 55 61
CHARLOTTE 28204
BOWMAN GRAY 704 372-3350

MATTHEWS, DAVID CARY PS AC
2215 RANDOLPH ROAD 74 75 83
CHARLOTTE 28207
U OF CINCINNATI 704 372-6846

MATTHEWS, WILLIAM CAMP IM /OM L/RT
RT. #4, BOX 142-B 37 37 39
CHESTER, SC 29706
U OF VIRGINIA 803 385-6975

MAUERHAN, DAVID ROBERT ORS AC
1822 BRUNSWICK AVENUE 78 79 84
CHARLOTTE 28207
U OF CINCINNATI 704 373-0544

MAY, HARVEY CRAIG GYN AC
2711 RANDOLPH ROAD, SUITE 305 42 50 50
CHARLOTTE 28207
TULANE U 704 372-8020

MAYER, WALTER BREM IM L/RT
2420--407 ROSWELL AVENUE 30 32 33
CHARLOTTE 28209
U OF PENN 704 333-4322

MCADAMS, CHARLES R.,JR. GS /GYN AC
225 HAWTHORNE LN. STE. 401 45 45 48
CHARLOTTE 28204
JEFFERSON 704 372-7741

MCALISTER, JAMES ALLEN, JR PTH /CLP AC
1901 RANDOLPH RD. 69 69 76
CHARLOTTE 28207
BOWMAN GRAY 704 375-1758

MCALLISTER, DAVID WHITNEY OBG AC
2711 RANDOLPH RD., STE. 512 70 70 76
CHARLOTTE 28213
BOWMAN GRAY 704 333-4104

MCBRIDE, ROBERT BENNIS, JR. ORS AC
101 W. T. HARRIS BLVD. #220A 80 81 85
CHARLOTTE 28213
WEST VA U 704 547-1552

MCBRYDE, ANGUS MURDOCH, JR. ORS AC
1012 KINGS DR., STE. 101 63 63 71
CHARLOTTE 28283
DUKE 704 372-0743

MCCALL, MARVIN MATHER, III CD /IM AC
P. O. BOX 32861 56 56 62
CHARLOTTE 28232
U OF NC 704 338-3165

MCCARTY, RALPH LEEVES CRS L/RT
843 HEMPSTEAD PL. 42 46 47
CHARLOTTE 28207
TULANE U 704 333-1259

MCCOY, JOSEPH BENNETT, JR. GYN AC
150 PROVIDENCE ROAD 50 50 54
CHARLOTTE 28207
U OF PENN 704 377-0461

MCCOY, THOMAS HATTON ORS AC
2600 E. 7TH ST. 81 82 86
PO BOX 35228
CHARLOTTE 28235
U OF NC 704 372-9820

MCCURDY, DONALD PITTARD OPH AC
2200 E. 7TH ST. 77 77 81
P. O. BOX 2874 CRS
CHARLOTTE 28204
U OF NC

MCELWEE, ROSS SIMONTON, JR. GS AC
3535 RANDOLPH RD. STE. 201-W 44 52 52
CHARLOTTE 28211
CORNELL U 704 364-8100

MCELWEE, THOMAS BRENTON GS AC
3535 RANDOLPH RD. 201-W 80 81 86
CHARLOTTE 28211
TULANE U 919 757-4629

MCGEE, JOHN ASBURY, JR. GYN AC
3535 RANDOLPH ROAD, SUITE 105 58 58 66
CHARLOTTE 28211
U OF NC 704 365-0470

MCGINNIS, BARRY DOUGLAS R AC
3535 RANDOLPH RD., STE. 102 79 82 86
CHARLOTTE 28211
U OF MICHIGAN 704 331-2274

MCGINNIS, LEE ANN M. AN AC
PO BOX 32861 79 79 86
CHARLOTTE 28232
U OF MICHIGAN 704 338-2372

MCKAY, CLINTON HULL IM L/RT
5135 HARDISON RD. 39 47 47
CHARLOTTE 28226
U OF TENNESSEE 704 373-0700

MCKAY, HAMILTON W., JR. A /IG AC
2711 RANDOLPH RD. STE. 400 55 56 61
P. O. BOX 221189
CHARLOTTE 28207
JOHNS HOPKINS 704 372-7900

MCLANAHAN, CHARLES SCOTT NS AC
1010 EDGEHILL ROAD, N. 73 74 80
CHARLOTTE 28207
COLUMBIA U 704 376-1605

MCLEAN, JONATHAN OWENS CD /IM AC
2330 RANDOLPH RD-LAUREL AVE. 71 71 81
CHARLOTTE 28207
U OF NC 704 377-0575

MCLEAN, MALCOLM PD AC
1851 E. THIRD STREET, STE. 103 56 56 62
CHARLOTTE 28204
U OF NC 704 333-6659

MCLEOD, JONNIE HORN PD AC
DEPT. OF HUMAN SERVICES 49 52 72
UNC CHARLOTTE STATION
CHARLOTTE 28223
TULANE U 704 597-2171

MCLEOD, WILLIAM LESLIE GYN AC
2711 RANDOLPH ROAD, STE. 305 45 52 52
CHARLOTTE 28207
LA STATE U 704 372-8020

MCLOUGHLIN, JILL HICKEY IM AC
217 TRAVIS AVE. 83 84 86
CHARLOTTE 28207
U OF NC 704 372-3350

MCNAMARA, JOHN FRANCIS, II OBG AC
2711 RANDOLPH ROAD, STE 512 76 77 80
CHARLOTTE 28207
OHIO STATE U 704 333-4104

MELARAGNO, HELEN P. FP AC
2001 E. FIFTH STREET 74 75 77
CHARLOTTE 28204
MED U OF SC 704 373-1663

MELTON, KATHERINE ROSE GS /NTR RT
1900 RANDOLPH RD. #718 54 55 60
CHARLOTTE 28207
MED COLL OF PENN 704 332-6756

MENSCER, DARLYNE FP AC
DEPT. OF FAMILY PRACTICE 79 79 75
CHARLOTTE MEM. HOSP, BOX 32861
CHARLOTTE 28232
U OF NC 704 338-3172

MERTESDORF, JAMES MICHAEL GE AC
1350 S. KINGS DR. 78 78 85
CHARLOTTE 28207
LOYOLA U 704 372-8750

METZEROTT, KIRK OLIVER AN AC
1600 E. THIRD ST. 52 53 74
CHARLOTTE 28204
GEO WASHINGTON U 704 843-3109

MILLER, EDITH HAMILTON IM /END AC
1350 S. KINGS DRIVE 75 76 82
CHARLOTTE 28207
MED U OF SC

MILLER, ROBERT EVANS ORS AC
1822 BRUNSWICK AVENUE 48 48 55
CHARLOTTE 28207
U OF PENN 704 373-0544

MILTICH, MICHAEL FIEGEL OTO /HNS AC
1600 E. THIRD STREET 78 79 84
CHARLOTTE 28204
WAYNE STATE U 704 372-3300

MILTON, CECIL JEROME ORS AC
225 HAWTHORNE LANE 56 56 63
CHARLOTTE 28204
BOWMAN GRAY 704 334-0809

MITCHENER, CALVIN CHAMBERS D AC
1600 E. FIFTH STREET 49 54 54
CHARLOTTE 28204
JEFFERSON 704 376-1523

MOCK, CHARLES GLENN PTH L/RT
BOX 917-0, ROUTE #1 35 35 38
MOREHEAD CITY 28557
U OF PENN 919 354-3153

MOKRIS, JEFFREY GEORGE ORS AC
1822 BRUNSWICK AVE. 79 79 80
CHARLOTTE 28207
U OF CINCINNATI 704 373-0544

MONSON, ROBERT CHARLES, II GS AC
3535 RANDOLPH RD., STE. 201-W 73 74 78
CHARLOTTE 28211
U OF MICHIGAN 704 364-8100

†MONTGOMERY, JOHN CHRISTIAN AN L
2022 NORTON ROAD 32 32 36
DECEASED - 4-13-87
CHARLOTTE 28207
U OF PENN 704 334-4950

MOORE, ARL VAN, JR. DR AC
5201 MORROWICK RD. 74 74 85
CHARLOTTE 28226
U OF ARKANSAS 704 365-0343

MOORE, DAVID HUDDLER PD /ID AC
7110 LAWYERS ROAD 76 76 81
CHARLOTTE 28212
INDIANA U 704 568-6500

MOORE, JOHN HERBERT, III GE /IM AC
2115 EAST 7TH ST.,STE. 104 77 80 83
CHARLOTTE 28204
EMORY U 704 377-4009

MOORE, THOMAS JOSEPH ORS AC
1822 BRUNSWICK AVE. 75 75 86
CHARLOTTE 28207
LOYOLA U

MOOREFIELD, WM. GUERRANT, JR. ORS AC
120 PROVIDENCE ROAD 69 69 77
CHARLOTTE 28207
DUKE 704 377-0351

MORTON, DUNCAN, JR. PDS /GS AC
2104 RANDOLPH ROAD 66 66 76
CHARLOTTE 28207
U OF NC 704 377-3900

MULLIS, WILLIAM FRANK PS /GS AC
2215 RANDOLPH ROAD 68 69 76
CHARLOTTE 28207
U OF PENN 704 372-6846

MUNDORF, GEORGE P AC
6001 HEMBY ROAD 46 47 53
MATTHEWS 28105
BOWMAN GRAY 704 846-1276

NADERI, MOHAMAD SIRUS AN AC
2001 VAIL AVE. 51 76 79
MERCY HOSPITAL
CHARLOTTE 28207
U OF TEHRAN 704 375-4001

NAGY, BRIAN R. P AC
501 BILLINGSLEY RD. 63 64 86
CHARLOTTE 28211
CORNELL U 704 375-3575

NASH, HOKE SMITH, JR. OTO AC
1600 E. THIRD STREET 54 61 61
CHARLOTTE 28204
VANDERBILT U 704 372-3300

NAUMOFF, PHILIP FP L
1012 KINGS DRIVE 37 39 39
CHARLOTTE 28283
DUKE 704 334-4665

NEAL, RUTHERFORD DOUGLAS GS /GYN L/RT
2214 THETFORD CT. 42 42 48
CHARLOTTE 28211
MED COLL OF VA 704 365-6541

NEALE, WIRT THOMAS PD AC
149 PROVIDENCE ROAD 69 70 75
CHARLOTTE 28207
U OF TENNESSEE 704 377-5571

60. MECKLENBURG COMPONENT SOCIETY (Continued)

NESBIT, FREDERICK P AC
1900 RANDOLPH ROAD, STE. 900 53 57 77
CHARLOTTE 28207
U OF GENEVA 704 333-7722

NESBIT, WILLIAM MICHAEL N AC
DOCTORS BLDG. SUITE 223 62 62 70
1012 S. KINGS DR.
CHARLOTTE 28283
U OF VIRGINIA 704 333-2853

NEWELL, ERNEST T. OM /FP AC
DUKE POWER 50 53 54
MCGUIRE STA. PO BOX 448
CORNELIUS 28031
DUKE 704 588-1265

NEWMAN, EDWIN R AC
3535 RANDOLPH RD. 61 67 68
CHARLOTTE 28211
U OF IOWA 704 364-0568

NEWTON, GRAHAM DOUGALD D AC
1600 E. FIFTH STREET 54 54 61
CHARLOTTE 28204
CORNELL U 704 376-1523

NIESS, GARY STEWART CD AC
1350 S. KINGS DR. 73 73 85
CHARLOTTE 28207
U OF NC 704 372-8750

NORRIS, CHARLES BRADLEY IM L
1310 SCOTT AVENUE 41 41 47
CHARLOTTE 28204
GEORGETOWN U 704 334-0450

NORTON, EVE GWENDOLYN EM AC
701 REGENCY DR. 81 81 84
CHARLOTTE 28211
U OF CINCINNATI 704 364-1038

NOWLIN, GEORGE PRESTON U L/RT
1868 MARYLAND AVENUE 24 29 30
CHARLOTTE 28209
U OF VIRGINIA 704 334-0302

O'BAR, PAUL RUPERT IM /ID AC
1350 S. KINGS DRIVE 57 57 71
CHARLOTTE 28207
U OF OKLAHOMA 704 372-8750

O'NEILL, MICHAEL RAYMOND U AC
1900 RANDOLPH RD., STE. 816 76 78 82
CHARLOTTE 28207
BOWMAN GRAY 704 334-3033

O'ROARK, HENRY CLYDE OBG AC
2711 RANDOLPH RD. STE. 309 57 57 82
CHARLOTTE 28207
OHIO STATE U 704 377-3396

OLIVER, ANDREW BLAINE, JR. OBG AC
UNIV. MEDICAL OFFICE BLDG.,
STE. A323 81 84 84
CHARLOTTE 28213
MED COLL OF GA 704 372-8020

OLIVER, KENNETH LEON OBG AC
1900 RANDOLPH ROAD 65 66 73
CHARLOTTE 28207
BOWMAN GRAY 704 377-5675

OLSON, DAVID GEORGE IM AC
7108 PINEVILLE-MATTHEWS RD. 74 74 82
NALLE CLINIC
CHARLOTTE 28226
TULANE U 704 542-1952

ORR, SAMUEL LAWRENCE PTH AC
CHARLOTTE MEMORIAL HOSPITAL 68 68 73
P. O. BOX 32861
CHARLOTTE 28232
MED U OF SC 704 338-2251

OWEIDA, SAMI JOSEPH AC
1900 RANDOLPH RD. STE. 410 79 85 86
CHARLOTTE 28207
U OF PITTSBURGH 704 334-4663

PADEN, PAUL ALEXANDER TR RT
3125 BROOKRIDGE LANE 32 32 63
CHARLOTTE 28211
U OF TENNESSEE 704 366-7883

PAGE, GEORGE DANTZLER GS L/RT
2128 QUEENS ROAD EAST 42 49 50
CHARLOTTE 28207
EMORY U 704 377-9788

PARKE, JAMES CLIFTON, JR. PD /NPM AC
P. O. BOX 32861 54 54 63
CHARLOTTE 28232
U OF NC 704 338-3156

PARKERSON, WALTER TUCK OPH AC
225 HAWTHORNE LANE 60 60 68
CHARLOTTE 28204
DUKE 704 377-3689

PARSONS, ROBERT GREGORY DR AC
3535 RANDOLPH RD. 69 71 76
CHARLOTTE 28211
U OF FLORIDA 704 365-0343

PASQUINI, JOHN ALDO CD /IM AC
125 BALDWIN AVE. 80 82 86
CHARLOTTE 28204
U OF CONNECTICUT 704 338-6300

PAYNE, ROBERT BENJAMIN IM /CD AC
3535 RANDOLPH ROAD 60 60 64
CHARLOTTE 28211
U OF NC 704 365-0760

PENDER, JOHN ROBERT, III GS AC
1851 E. THIRD STREET, STE. 105 47 47 55
CHARLOTTE 28204
JEFFERSON 704 332-4169

PERRIN, THOMAS SAMUEL, JR. IM AC
3535 RANDOLPH ROAD 43 52 53
CHARLOTTE 28211
JOHNS HOPKINS 704 365-0760

PERRY, GLENN BRADFORD ORS /TRS AC
1822 BRUNSWICK AVE. 78 79 84
CHARLOTTE 28207
TEMPLE U 704 373-0544

PETTY, JERRY MILLER NS AC
1010 EDGEHILL ROAD, N. 60 60 69
CHARLOTTE 28207
U OF NC 704 376-1606

PFEIFFER, FREDERICK EARLY N /IM AC
126 COTTAGE PLACE 76 79 86
CHARLOTTE 28207
VANDERBILT U 704 334-7311

PHILLIPS, DEWITT DEWEY, JR. GP AC
1012 S. KINGS DR. STE. 822 46 47 48
CHARLOTTE 28283
BOWMAN GRAY 704 375-6350

PITTS, WILLIAM REID NS /GS L/RT
429 EASTOVER ROAD 33 33 40
CHARLOTTE 28207
HARVARD 704 333-0407

PIXLEY, ROLAND THEO OBG AC
1023 EDGEHILL ROAD, SOUTH 46 52 53
CHARLOTTE 28207
ST U OF NY-BUFF 704 373-1541

PLUNKETT, STEVEN ROCKWELL ON AC
PO BOX 33549 78 78 84
CHARLOTTE 28233
MED COLL OF GA 704 371-4189

POLLARD, JOHN ALAN AN AC
1620 SCOTT AVE. 62 67 86
CHARLOTTE 28211
U OF MANCHESTER 704 331-2372

PORTER, CHARLES ALEXANDER OBG AC
1712 E. FOURTH STREET 66 66 73
CHARLOTTE 28204
JEFFERSON 704 375-9074

POTTER, PATRICIA LYNN AN AC
6439 BENTRIDGE DR. 76 76 84
CHARLOTTE 28207
BOWMAN GRAY 704 377-1647

POWE, CHARLES EDWIN, JR. OBG AC
3535 RANDOLPH ROAD, STE. 105 58 63 64
CHARLOTTE 28211
MED U OF SC 704 365-0470

POWELL, JAMES MEYERS, JR. P /CHP AC
2315 RANDOLPH ROAD 68 68 78
CHARLOTTE 28207
U OF NC 704 377-4243

POWERS, DOUGLAS FULLER CHP /P AC
5517 EAGLE LAKE DR., SOUTH 47 47 76
CHARLOTTE 28210
BAYLOR 704 588-2289

PRESSLY, CLAUDE LOWRY GS /TS L/RT
1863 CASSAMIA PL. 43 43 50
CHARLOTTE 28211
U OF PENN 704 376-0327

PRESSLY, JAMES ALLEN ORS AC
2300-B RANDOLPH ROAD 66 66 74
CHARLOTTE 28207
U OF NC 704 375-5955

PRESSLY, JAMES PATTERSON OPH A
3535 RANDOLPH ROAD 68 68
CHARLOTTE 28211
MED U OF SC 704 364-8

PRICE, GRADY EDWIN ORS A
2001 RANDOLPH ROAD 60 60
CHARLOTTE 28207
DUKE 704 377-4

PRIDE, HAROLD SYLVESTER FP /PD A
951 S. INDEPENDENCE #200 59 60
CHARLOTTE 28202
MEHARRY MED COLL 704 377-3

PRITCHARD, WILLIAM LEE NS A
2711--204 RANDOLPH ROAD 56 62
CHARLOTTE 28207
JOHNS HOPKINS 704 333-21

PUGH, JAMES EDWIN, JR. N A
126 COTTAGE PLACE 67 69
CHARLOTTE 28207
U OF PENN 704 334-73

PUTMAN, STEVEN FREDERICK N A
2608 E. SEVENTH ST. 78 80
CHARLOTTE 28204
NORTHWESTERN U

QUERY, RICHARD ZIMRI, JR. RHU /IM L/
1903 QUEENS RD. WEST 34 37
CHARLOTTE 28207
DUKE 704 333-80

RANKIN, RUFUS PINKNEY, JR. GYN A
1851 E. THIRD STREET 52 52
CHARLOTTE 28204
U OF PENN 704 332-81

RANN, EMERY LOUVELLE FP L/
1001 BEATTIES FORD ROAD 48 49
CHARLOTTE 28216
MEHARRY MED COLL 704 333-07

RANSON, JOHN LESTER, JR. IM A
335 N. CASWELL ROAD 42 42
CHARLOTTE 28204
JEFFERSON 704 376-48

RANSON, WILLIAM ALEXANDER IM A
1012 S. KINGS DR. 48 48
CHARLOTTE 28283
JEFFERSON 704 374-07

RAO, INNANJE RAVINDRANATH CD /IM A
2330 RANDOLPH AT LAUREL 65 66
CHARLOTTE 28207
STANLEY MED COLL 704 377-05

RAPP, IRA HAMMES ORS R
1500 PROVIDENCE RD. 43 48
CHARLOTTE 28207
U OF PENN 704 821-85

RATHBUN, MARY ANNE NPM /PD A
CHARLOTTE MEM. HOSPITAL 70 73
P. O. BOX 32861
CHARLOTTE 28232
ALBANY MED COLL 704 338-31

RAYMER, JAMES BARKER GS A
1928 RANDOLPH ROAD 53 53
CHARLOTTE 28207
CASE WESTERN RES 704 333-65

REAMES, PATRICK MARTIN R A
PO BOX 33549 58 66
CHARLOTTE 28233
U OF TEXAS-SW 704 371-40

REINDOLLER, ROBERT WILLIAM GE /IM A
1900 RANDOLPH RD. STE. 910 75 76
CHARLOTTE 28207
U OF MARYLAND 704 372-79

RENALDO, DONALD PHILIP OPH A
1900 RANDOLPH ROAD 74 75
CHARLOTTE 28207
TEMPLE U 704 376-54

RHODES, MARSHA JERNIGAN PD A
249 BILLINGSLEY ROAD 81 83
CHARLOTTE 28211
U OF ALABAMA 704 375-18

RICE, WILLIAM CHARLES U A
1012 S. KINGS DR., STE. 806 69 69
CHARLOTTE 28283
U OF FLORIDA 704 334-64

RILEY, JAMES CHARLES IM /GE A
125 BALDWIN AVE. 67 68
CHARLOTTE 28204
TEMPLE U 704 374-16

60. MECKLENBURG COMPONENT SOCIETY (Continued)

IER, BOBBY ALAN OBG AC 57 57 73
CHARLOTTE MEM. HOSP.
O BOX 32861
CHARLOTTE 28232
OF NC 704 331-3149

PEL, DONALD AIME PDC AC 63 66 84
960 RANDOLPH ROAD
CHARLOTTE 28207
OF FLORIDA 704 373-1503

CH, DOUGLAS LAMAR IM AC 63 63 67
35 N. CASWELL ROAD
CHARLOTTE 28204
OF NC 704 376-4852

BERSON, GEORGE DON OTO /A AC 58 64 64
535 RANDOLPH ROAD
CHARLOTTE 28211
MED COLL OF VA 704 365-0711

BERTS, THOMAS ADAMS, JR. GE /IM AC 70 70 79
350 S. KINGS DR.
CHARLOTTE 28207
OF NC 704 372-8750

BERTS, WILLIAM STANLEY CD /IM AC 75 76 81
350 S. KINGS DR.
CHARLOTTE 28207
OF VIRGINIA 704 365-1633

BICSEK, FRANCIS TS /CDS AC 50 58 59
960 RANDOLPH ROAD
CHARLOTTE 28207
OF BUDAPEST 704 373-1500

BINSON, CHARLES WILSON GP L 30 30 32
16 CHEROKEE RD.
CHARLOTTE 28207
OF PENN 704 333-6086

DDEY, OLIVER FENNELL, JR. PD AC 55 55 70
711--501 RANDOLPH ROAD
CHARLOTTE 28207
OF NC 704 374-1736

EMER, CLIFFORD ERIC DR AC 76 76 81
O BOX 33549
CHARLOTTE 28233
CASE WESTERN RES 704 371-4056

GERS, LARRY ARCH NS AC 65 65 74
010 EDGEHILL ROAD, NORTH
CHARLOTTE 28207
UKE 704 376-1605

PER, JOHN TRACY ORS AC 55 55 65
001 RANDOLPH ROAD
CHARLOTTE 28207
MED U OF SC 704 377-4907

SS, OTHO B., JR. IM L/RT 43 43 50
022 FERNCLIFF RD.
CHARLOTTE 28211
UKE 704 366-7820

NGE, JEFFREY WILLIAM EM AC 81 82 85
O BOX 32861
CHARLOTTE 28232
MED U OF SC 704 331-3181

PPENTHAL, C. ROBERT, JR. IM /HEM AC 60 68 68
350 S. KINGS DRIVE
CHARLOTTE 28207
OF PENN 704 372-8750

SS, DONALD JAMES IM AC 73 73 77
535 RANDOLPH ROAD
CHARLOTTE 28211
OF MARYLAND 704 365-0760

TLEDGE, MARY LOUISE PD L/RT 48 49 51
157 NORTON ROAD
CHARLOTTE 28207
TEMPLE U 704 334-9218

LLEY, BRUNSON MARTIN FP AC 64 65 67
O BOX 18248
CHARLOTTE 28218
MED COLL OF GA 704 537-0020

LMON, ROBERT BRUCE R AC 61 67 68
535 RANDOLPH RD.
CHARLOTTE 28211
WASHINGTON U 704 338-2270

LTON, RUSSELL ARTHUR,III FP AC 73 75 76
618 E. MOREHEAD ST.
CHARLOTTE 28207
WEST VA U 704 523-1157

MUELS, WALTER RAY OBG AC 61 61 68
50 PROVIDENCE ROAD
CHARLOTTE 28207
OF NC 704 377-0461

SAXE, JESSICA SCHORR FP AC 77 78 81
2216 DILWORTH ROAD, WEST
CHARLOTTE 28203
TUFTS U 704 338-3084

SCHAFERMEYER, ROBERT WM. EM /PD AC 73 74 82
CHARLOTTE MEM. HOSPITAL
P. O. BOX 32861
CHARLOTTE 28232
U OF MISSOURI 704 338-3181

SCHNEIDER, PETER JOHN
101 W. T. HARRIS BLDG.
CHARLOTTE 28213

SCHOEN, WALTER OBG AC 74 72 87
1350 S. KINGS DR.
CHARLOTTE 28207
U OF PADOVA 704 372-8750

SCHOLL, GEORGE KENNETH, JR. U AC 67 67 74
1012 KINGS DR., STE. 806
CHARLOTTE 28283
U OF TENNESSEE 704 334-6449

SCHUG, JOHN BUTLER OBG AC 57 61 65
3535 RANDOLPH ROAD, SUITE 105
CHARLOTTE 28211
MED COLL OF VA 704 364-1041

SCHUMACHER, DONALD IM AC 70 70 75
335 N. CASWELL ROAD
CHARLOTTE 28204
U OF BOLOGNA 704 376-4852

SCHUPBACH, CURTIS WAYNE D AC 69 70 76
1350 S. KINGS DRIVE
CHARLOTTE 28207
WASHINGTON U 704 372-8750

SCHWARTZ, JARED NAPHTALI PTH AC 73 74 78
P. O. BOX 33549
CHARLOTTE 28233
DUKE 704 371-4814

SCHWARTZ, ROBERT PAUL PD /PDE AC 68 68 74
CHARLOTTE MEM. HOSP.
P. O. BOX 32861
CHARLOTTE 28232
U OF FLORIDA 704 338-3156

SCHWILM, ARLEN LEE D AC 67 67 74
3535 RANDOLPH ROAD, SUITE 101
CHARLOTTE 28211
MED COLL OF VA 704 364-6110

SCHYMIK, LINDA GLAUBITZ PTH AC 82 85 86
6913 HUNTFIELD DR.
MATTHEWS 28105
DUKE 704 362-0448

SCOTT, DEBORAH ANNETTE PD AC 78 80 81
1012 KINGS DR. STE. 1024
CHARLOTTE 28283
U OF NC 704 376-0884

SEAY, HILLIS LEDBETTER GP L 30 30 34
PO BOX 528
HUNTERSVILLE 28078
VANDERBILT U 704 875-6946

SELLE, JAY GREGORY TS /CDS AC 68 69 76
1960 RANDOLPH ROAD
CHARLOTTE 28207
WAYNE STATE U 704 373-1500

SENTER, RICHARD GORDON RHU /IM AC 66 66 72
1350 KINGS DRIVE
CHARLOTTE 28207
JOHNS HOPKINS 704 372-8750

SHAIA, WILLIAM HARRY FP AC 45 47 48
2125 BERRYHILL ROAD
CHARLOTTE 28208
MED COLL OF VA 704 375-3217

SHAVER, EDWARD FRANKLIN, JR. OT AC 59 64 64
1851 E. THIRD STREET
CHARLOTTE 28204
TULANE U 704 376-8436

SHEARER, JAMES NEIL PS AC 75 75 85
2711 RANDOLPH RD., STE. 502
CHARLOTTE 28207
NEW YORK MED COLLEGE 704 372-8800

SHIRLEY, ROBERT E.L., JR. OBG AC 69 75 78
1955 RANDOLPH ROAD
CHARLOTTE 28207
MED COLL OF GA 704 376-3536

SHIVE, ROBERT MACGREGOR P AC 61 61 67
1937 SELWYN AVENUE
CHARLOTTE 28207
U OF NC 704 375-7717

SHOAF, EDWIN HUSS, JR. IM AC 75 75 79
491 N. WENDOVER RD.
CHARLOTTE 28211
BOWMAN GRAY 704 366-7291

SHORT, EARL DEGREY, JR., P AC 59 59 81
501 BILLINGSLEY RD.
CHARLOTTE 28211
MED U OF SC 704 375-3575

SHULTZ, KIRKWOOD TANNER IM /END AC 66 66 71
125 BALDWIN AVE.
CHARLOTTE 28204
DUKE 704 374-1696

SIGMON, JAMES LEWIS, JR. FP AC 66 66 71
P. O. BOX 32861
CHARLOTTE 28232
U OF NC 704 338-3172

SIGMON, RICHARD LEE, JR. GE AC 79 80 76
1900 RANDOLPH RD.,, STE. 910
CHARLOTTE 28207
U OF NC 704 372-7974

SILBIGER, STEPHEN ALAN IM AC 72 73 86
III FAIRVIEW PLAZA, STE. 100
5950 FAIRVIEW RD.
CHARLOTTE 28210
SYRACUSE 704 551-4200

SIPPE, JOSEPH LAWRENCE OPH AC 68 68 73
1350 S. KINGS DRIVE
CHARLOTTE 28207
MED COLL OF VA 704 372-8750

SLOTKIN, ROBERT IRVING PD AC 61 64 73
2317 RANDOLPH ROAD
CHARLOTTE 28207
U OF VIRGINIA 704 376-5572

SMITH, HENRY LOUIS, II PD AC 66 66 72
1700 ABBEY PLACE
CHARLOTTE 28209
U OF PENN 704 523-7232

SMITH, ROGER ENOS CD /IM AC 64 65 73
125 BALDWIN AVE.
CHARLOTTE 28204
U OF ILLINOIS 704 374-1696

SMOLEN, PAUL MATHIEU PD AC 78 79 83
1851 E. THIRD ST.
CHARLOTTE 28204
RUTGERS MED SCH 704 333-6659

SNITZ, ARNOLD IRA PD AC 75 75 79
2711 RANDOLPH ROAD
CHARLOTTE 28207
U OF VIRGINIA 704 332-7141

SNYDER, JOHN MICHAEL AN AC 68 70 76
R.F.D. #3, BOX 120F
WAXHAW 28173
U OF ALBERTA 704 371-4049

SODEN, KEVIN JOSEPH OM /EM AC 74 75 84
7019 WHITEMARSH COURT
CHARLOTTE 28210
U OF FLORIDA 704 554-2656

SOMERSTEIN, DAVID EUGENE U AC 66 66 73
3535 RANDOLPH ROAD
CHARLOTTE 28211
MED U OF SC 704 365-0371

SPANGENTHAL, SELWYN PUD AC 74 74 84
1350 S. KINGS DR.
CHARLOTTE 28207
U OF CAPE TOWN 704 372-8750

SPAUGH, EARLE PD /ADL AC 50 50 55
411 N. WENDOVER RD.
CHARLOTTE 28211
U OF PENN 704 375-9795

SPIVEY, JAMES RICHARD IM AC 80 81 84
1928 RANDOLPH RD. STE. 211
CHARLOTTE 28207
TULANE U 704 377-3439

STALLWORTH, WILLIAM KING OBG AC 59 63 63
2711 RANDOLPH RD.#305-A
CHARLOTTE 28207
TULANE U 704 372-8020

STEAGALL, ROBERT WORTH, JR. D RT 55 55 65
6434 SARDIS ROAD
CHARLOTTE 28226
DUKE 704 364-1050

STEIGER, HOWARD PAUL D L/RT 39 47 47
2222 SELWYN AVE.
CHARLOTTE 28207
DUKE 704 376-1523

60. MECKLENBURG COMPONENT SOCIETY (Continued)

STEPHENS, KATHRYN JOHNSON OBG AC
78 78 75
2230-B RANDOLPH RD.
CHARLOTTE 28207
U OF NC 704 338-9752

STERNBERGH, W.C.A. R L
33 00 48
1300 REECE RD. APT. 419
CHARLOTTE 28209
U OF VERMONT

STORY, WILLIAM ROBERT U AC
58 58 68
1012 KINGS DRIVE
CHARLOTTE 28283
U OF NC 704 334-6449

STOWE, CLEVELAND OPH AC
76 77 84
1600 E. THIRD ST.
CHARLOTTE 28204
BOWMAN GRAY 704 372-3300

STRATTON, JAMES DAVID OPH L/RT
37 38 47
5150 SHARON ROAD
CHARLOTTE 28210
RUSH MED COLL 704 554-7176

STUCKEY, CHARLES LEGRAND IM L
40 46 47
1515 ELIZABETH AVENUE
CHARLOTTE 28204
U OF VIRGINIA 704 333-1116

SUGG, WILLIAM CASWELL, JR. IM /PUD AC
61 62 67
2711 RANDOLPH ROAD, SUITE 100
CHARLOTTE 28207
EMORY U 704 373-0700

SUNDBERG, THOMAS CLARKE RHU AC
77 79 83
1335 ROMANY ROAD
CHARLOTTE 28204
WUERZBURG U.GERM 704 375-1719

SUTTON, RICHARD LORING EM AC
74 75 79
5040 KIMBLEWYCK LANE
CHARLOTTE 28226
OHIO STATE U 704 365-3076

SVENSON, ROBERT HAROLD CD /IM AC
69 70 75
1960 RANDOLPH ROAD
CHARLOTTE 28207
U OF CHICAGO 704 373-1503

SWETENBURG, RAYMOND LEE, JR. PD AC
76 78 79
2711 RANDOLPH ROAD
CHARLOTTE 28207
DUKE 704 374-1736

TART, JAMES MILTON, JR. OBG AC
53 57 58
MERCY MED. CTR. PARK
PINEVILLE 28134
TEMPLE U 704 376-3536

TAYLOR, ANDREW DUVAL A L/RT
34 34 37
2610 SELWYN AVENUE
CHARLOTTE 28209
U OF MARYLAND 704 334-2397

TAYLOR, FREDERICK HARVEY TS /CDS AC
45 45 54
1900 RANDOLPH RD. #206
CHARLOTTE 28207
DUKE 704 372-1306

TAYLOR, JOHN BRUCE OBG AC
78 80 83
449 N. WENDOVER RD.
CHARLOTTE 28211
MED COLL OF VA 704 376-0360

THALINGER, ALAN ROBERT ON /IM AC
72 72 79
3535 RANDOLPH ROAD
CHARLOTTE 28211
U OF VIRGINIA 704 365-0760

THOMAS, ACHAMMA IM RT
57 57 73
11005 HUNTOVER DR.
ROCKVILLE, MD 20852
CALICUT U 301 881-0229

THOMASON, MICHAEL HALE GS AC
78 79 75
PO BOX 32861
CHARLOTTE 28232
U OF NC 704 331-3176

THOMLEY, ALAN MILES CD /IM AC
77 78 85
1960 RANDOLPH ROAD
CHARLOTTE 28207
U OF MIAMI 704 373-1503

THOMPSON, JOHN ALBERT, JR. D AC
67 67 74
2310 RANDOLPH ROAD
CHARLOTTE 28207
BOWMAN GRAY 704 376-9849

THOMPSON,WILLARD CHANDLER,JR. GS AC
50 55 55
3535 RANDOLPH RD., 201-W
CHARLOTTE 28211
CORNELL U 704 364-8100

TIDWELL, JOHN WILLIAM, II OBG AC
65 66 73
1900 RANDOLPH ROAD
CHARLOTTE 28207
U OF MICHIGAN 704 377-5675

TILLETT, CHARLES WALTER, JR. OPH AC
46 46 55
2130 SHARON LANE
CHARLOTTE 28211
JOHNS HOPKINS 704 372-3990

TOLENTINO, ANITA CHUA AN AC
71 74 78
6842 N. BALTUSTROL LANE
CHARLOTTE 28210
U OF SANTO TOMAS 704 552-8511

TRACY, JOHN WILLIAM FP AC
82 83 86
1618 E. MOREHEAD ST.
CHARLOTTE 28207
U OF NC 704 377-3610

TSAI, GEORGE SHOU-CHYUAN GP AC
70 77 80
P. O. BOX 430
INDIAN TRAIL 28079
CHINA MED COLL 704 821-7056

TUCKER, PAUL CHAMBLISS, JR. GE /IM AC
65 65 73
NALLE CLINIC
1350 S. KINGS DR.
CHARLOTTE 28207
MED COLL OF GA 704 372-8750

TUCKER, WALTER ROBERT FP AC
74 74 75
1618 E. MOREHEAD ST.
CHARLOTTE 28207
U OF NC 704 377-3610

TUCKER, WILLIAM STUART, JR. IM /END AC
78 81 85
1350 S. KINGS DR.
CHARLOTTE 28207
U OF VIRGINIA 704 372-8750

TUGGLE, ALLAN DAVIS R L
26 40 41
2335 FOREST DRIVE
CHARLOTTE 28211
U OF LOUISVILLE 704 366-4089

TURNER, MURRAY WELLS IM /NEP AC
80 81 77
125 BALDWIN AVE.
NORTH HILLS
CHARLOTTE 28204
BOWMAN GRAY 704 338-6300

UGLAND, DAVID NELS OPH AC
80 80 86
100 QUEENS RD.
CHARLOTTE 28204
BAYLOR 704 332-1156

ULLRICH, CHRISTOPHER GEORGE DR AC
76 76 86
2631 ROTHWOOD DR.
CHARLOTTE 28211
SYRACUSE 704 365-0343

VADNAIS, PAUL ALFRED AN AC
79 84 76
2308 WYTHE HOUSE CT.
CHARLOTTE 28226
U OF NC 704 364-9135

VALERI, FRANK SCOTT CD /IM AC
80 81 85
2330 RANDOLPH RD.
CHARLOTTE 28207
PENN STATE U 704 377-0575

VAN-HOY, JOE MILTON GS L/RT
38 38 49
3735 ABINGDON ROAD
CHARLOTTE 28211
DUKE 704 364-5069

VANDER VEER, CRAIG ANDREW NS AC
79 80 86
1010 EDGEHILL
CHARLOTTE 28207
CHICAGO MED SCH 704 376-1605

VANDIVER, THOMAS JACKSON OBG AC
76 78 81
150 PROVIDENCE ROAD
CHARLOTTE 28207
EMORY U 704 377-0461

VERHOEFF, DIRK PUD L/RT
36 33 54
SEASIDE SPARROW 12
HILTON HEAD ISLAND, SC 29928
U OF UTRECHT 803 671-2665

VERMEULEN, FRED DONALD CRS /GS AC
76 77 83
2028 RANDOLPH ROAD
CHARLOTTE 28207
CASE WESTERN RES 704 333-1259

VERNER, HUGH DAVID IM AC
43 47 50
212 S. TRYON ST., STE. 1500
CHARLOTTE 28281
JOHNS HOPKINS 704 365-0760

VERROSS, WILLIAM EDWARD OBG
74 75
1023 EDGEHILL ROAD, S.
CHARLOTTE 28207
MED COLL OF GA 704 373-1

VESANO, JACK LEE ORS
68 68
225 HAWTHORNE LN. #205
CHARLOTTE 28204
WEST VA U 704 334-0

VISSER, PHILIP ALBERT GS /CRS
76 77
2115 E. 7TH ST., STE. 104
CHARLOTTE 28204
U OF IOWA 704 333-1

VISSER, VALYA ELIZABETH NPM /PD
73 74
DEPT. OF PEDIATRICS
CHARLOTTE MEM. HOSP. BOX 32861
CHARLOTTE 28232
U OF IOWA 704 338-3

WACHTER, FRANCIS WILFRED PTH
60 61
PO BOX 33549
CHARLOTTE 28233
JEFFERSON 704 371-4

WAGONER, DAVID KIRK PD
71 71
332 LILLINGTON AVENUE
CHARLOTTE 28204
U OF NC 704 376-4

WALKER, ANDREW WILLIAM PS /HS
60 60
2215 RANDOLPH ROAD
CHARLOTTE 28207
VANDERBILT U 704 372-6

WALKER, ANNE ENGLISH PD
80 83
226 BALDWIN AVENUE
CHARLOTTE 28207
U OF NC 704 332-8

WALKER, PHILLIP JACKSON NEP /IM
64 64
928 BAXTER ST.
CHARLOTTE 28204
U OF VIRGINIA 704 374-1

WALKER, THOMAS ENGLISH PD
50 50
226 BALDWIN AVENUE
CHARLOTTE 28204
HARVARD 704 332-81

WALKER, WILLIAM ALFRED CRS /GS
78 79
2028 RANDOLPH RD.
CHARLOTTE 28207
U OF NC 704 333-12

WANNAMAKER, EDWARD JONES IM L/
21 24
RT. #3, BOX 250
CHARLOTTE 28210
U OF PENN 704 372-51

WARD, SIMON V., III OBG
41 81
2711 RANDOLPH RD. STE. 305
CHARLOTTE 28207
LA STATE U 704 372-80

WARD, WILLIAM ALAN ORS
79 79
120 PROVIDENCE RD.
CHARLOTTE 28207
U OF PITTSBURGH 704 377-03

WARNER, CHARLES ERNEST PD
58 58
1700 ABBEY PLACE
CHARLOTTE 28209
DUKE 704 523-72

WARREN, CASPER CARL, JR. AN
59 59
RT. #6, BOX 368
MOORESVILLE 28115
U OF NC 704 664-16

WARREN, THOMAS LINSON AN
78 79
4401 COLWICK RD., STE. 702
CHARLOTTE 28211
WEST VA U 704 379-59

WATKINS, CARLTON GUNTER PD
43 43
3500 ELLINGTON STREET
CHARLOTTE 28211
WASHINGTON U 704 372-77

WATSON, DAVID WILLIAM U
64 64
1900 RANDOLPH RD., STE. 506
CHARLOTTE 28207
SYRACUSE 704 375-25

WEBSTER, JOEL STOOPS CD /IM
53 53
2330 RANDOLPH AT LAUREL
CHARLOTTE 28207
U OF MARYLAND 704 377-05

WEEKS, KENNETH DURHAM, JR. IM /CD
74 78
125 BALDWIN AVENUE
CHARLOTTE 28204
DUKE 704 338-63

60. MECKLENBURG COMPONENT SOCIETY (Continued)

_LTON, DAVID GOE D L
535 RANDOLPH RD. STE. W101 35 39 39
HARLOTTE 28211
OF WISCONSIN 704 364-6110

EELER, ANTHONY H. N AC
00 BRUNSWICK AVE. 77 77 87
HARLOTTE 28207
OF NC 704 377-9323

TE, MACK WILLIS, III IM AC
108 MATTHEWS-PINEVILLE RD. 79 80 75
HARLOTTE 28226
OF NC 704 542-1952

ITE, THOMAS HUGH OBG AC
351 E. THIRD STREET 59 59 65
HARLOTTE 28204
UKE 704 332-8103

ITE, THOMAS RHYNE FP AC
0724 PARK ROAD 80 80 77
HARLOTTE 28210
UKE 704 542-9227

ITE, WILLIAM ELLIOTT PD AC
711 RANDOLPH RD., STE. 301 46 47 53
HARLOTTE 28207
OWMAN GRAY 704 332-6332

ITESIDE, JOHN HARVEY OBG AC
50 PROVIDENCE ROAD 57 57 74
HARLOTTE 28207
OF TORONTO 704 377-0461

ITLOCK, GARY THOMAS, III AC
01 S. COLLEGE #1370 78 80 81
HARLOTTE 28244
OF NC 704 373-2121

)ENER, HERBERT LLOYD RHU /IM AC
350 S. KINGS DRIVE 68 77 78
HARLOTTE 28207
ED COLL OF VA 704 372-8750

_KERSON, EARL RANDOLPH, JR. OPH AC
535 RANDOLPH ROAD 64 64 71
HARLOTTE 28211
MORY U 704 364-8576

_LIAMS, CHARLES D. PUD /IM AC
34 LANSDOWNE RD. 50 54 57
HARLOTTE 28226
)UKE 704 366-6687

_LIAMS, MCCHORD GS L
954 CHURCHILL ROAD 37 37 42
HARLOTTE 28211
HARVARD 704 364-5363

WILLIAMS, WILLIAM THOMAS, JR. IM /PD AC
MAIN ST., BOX 1570 73 73 79
DAVIDSON 28036
BAYLOR 704 892-7905

WILLIAMSON, JOYCE M. D AC
3535 RANDOLPH ROAD, 101-W 58 66 67
CHARLOTTE 28211
U OF EDINBURGH 704 364-6110

WILSON, B. HADLEY CD AC
1960 RANDOLPH RD. 80 81 76
CHARLOTTE 28207
DUKE 704 373-1503

WILSON, HENRY VANPETERS, III GS /TS AC
3535 RANDOLPH RD., 201-W 61 64 67
CHARLOTTE 28211
JOHNS HOPKINS 704 364-8100

WING, RICHARD LEE OBG AC
PO BOX 32861 76 76 85
CHARLOTTE MEM. HOSPITAL
CHARLOTTE 28232
U OF NC 704 338-3149

WINGERT, JOHN GEORGE OBG AC
1955 RANDOLPH ROAD 55 65 65
CHARLOTTE 28207
U OF IOWA 704 376-3536

WISE, DANIEL EDWIN CD AC
1350 S. KINGS DRIVE 69 69 77
CHARLOTTE 28207
OHIO STATE U 704 372-8750

WISE, FRED EUGENE, JR. DR AC
1350 S. KINGS DRIVE 45 54 55
CHARLOTTE 28207
MED COLL OF VA 704 372-8750

WISSING, JOEL ALLEN R AC
1611 E. THIRD ST. 73 74 85
CHARLOTTE 28204
U OF ALABAMA 704 333-0224

WOLTZ, JOHN HENRY EARLY GYN L
150 PROVIDENCE ROAD 42 42 46
CHARLOTTE 28207
U OF PENN 704 377-0461

WOOD, KENNETH ERVIN ORS AC
1350 S. KINGS DRIVE 70 71 78
CHARLOTTE 28207
U OF FLORIDA 704 372-8750

WOODY, JOE HARRIS OPH AC
4335 COLWICK RD. 58 58 65
CHARLOTTE 28211
BOWMAN GRAY 704 364-7400

WORTMAN, WILLIAM J., JR. GYN /OBS AC
2711 RANDOLPH RD. #309 64 64 76
CHARLOTTE 28207
BOWMAN GRAY 704 376-1580

WRENN, RICHARD NICKLES ORS AC
1822 BRUNSWICK AVENUE 47 55 56
CHARLOTTE 28207
DUKE 704 373-0544

WRIGLEY, RUTH LEYMEISTER FP /P AS
4516 RANDOLPH RD., #131 38 38 71
CHARLOTTE 28211
TEMPLE U 704 366-5479

WYNN, ROY SPURGEON OPH RT
1721 OAKLAWN AVENUE 33 34 67
CHARLOTTE 28216
HOWARD U 704 332-2035

YOUNG, JOHN ADAM, II OPH AC
1600 E. THIRD STREET 60 60 67
CHARLOTTE 28204
U OF NC 704 372-3300

YOUNT, JAMES ALVIN CD /CD AC
3535 RANDOLPH ROAD 66 66 74
CHARLOTTE 28211
U OF NC 704 365-0760

YUDELL, ROBERT BENJAMIN OPH AC
309 S. LAUREL AVENUE 54 57 61
CHARLOTTE 28207
DUKE 704 372-4380

ZIMMERMAN, GERALD DAVID R /NM AC
MERCY HOSPITAL 62 62 70
2001 VAIL AVE.
CHARLOTTE 28207
M C OF WISCONSIN 704 379-5860

ZIMMERN, SAMUEL HYAMS CD /IM AC
1960 RANDOLPH ROAD 74 74 83
CHARLOTTE 28207
JOHNS HOPKINS 704 373-1503

ZOLLINGER, RICHARD WILLIAM, II TS /CDS AC
1900 RANDOLPH RD., STE. 206 78 79 86
CHARLOTTE 28207
CHICAGO MED SCH 704 372-1306

ZUGER, JAMES HERMAN R AC
6011 BENTWAY DR. 73 74 77
CHARLOTTE 28226
BOSTON U 704 541-6011

61. MITCHELL-YANCEY COMPONENT SOCIETY

FFICERS—**President:** Garland Wampler, M.D., Main St., Burnsville 28777
Secretary: Thomas S. Kaluzynski, M.D., 408 Altapass Rd., Spruce Pine 28777

CHANAN, HARRY GLENN FP AC
203 BROAD STREET 64 67 68
SPRUCE PINE 28777
WEST VA U 704 765-7361

)RT, CAROLYN RAY PD AC
P. O. BOX 188 70 70 79
BURNSVILLE 28714
BOWMAN GRAY 704 682-6912

HORNER, JACK CHENOWTH GS L/RT
37 PACES WEST PLACE 37 51 51
ATLANTA, GA 30327
GEO WASHINGTON U 404 237-4651

JOHNSON, JAMES NOLEN FP AC
24 DEER PARK LAKE DR. 57 58 59
SPRUCE PINE 28777
U OF TENNESSEE

SARGENT, WINSTON ARTHUR Y. GP L/RT
37 SUMMIT ST. 30 31 54
BURNSVILLE 28714
U OF VERMONT

62. MONTGOMERY COMPONENT SOCIETY

FFICERS—**President:** Michael B. Daley, M.D., 423 Wood St., Troy 27371 (919 572-3779)
Secretary: Fred E. Wier, M.D., P.O. Drawer D, 506 Wood St., Troy 27371 (919 572-3737)

NDREWS, VERNON LILES FP L/RT
RT. #2, BOX 2049-A 42 42 47
MOUNT GILEAD 27306
COLUMBIA U 919 439-5516

JLLEY, JAMES PAUL GS AC
506 WOOD ST. 66 67 74
TROY 27371
U OF KENTUCKY 919 572-3737

LEY, MICHAEL BERNARD IM AC
423 WOOD STREET 78 79 82
TROY 27371
MED U OF SC 919 572-3779

GIBSON, JACKSON V. IM AC
423 WOOD STREET 80 80 84
TROY 27371
U OF NC 919 572-3779

GLENN, JOHN CAPERS, JR. R /NM AC
514 WOOD STREET 43 47 47
TROY 27371
DUKE 919 572-3475

HIGHSMITH, CHARLES GS /ORS L/RT
P. O. BOX D 42 42 52
TROY 27371
GEO WASHINGTON U 919 576-5511

JANTZ, ROBERT JOSEPH FP AC
P. O. BOX 128 81 83 84
MOUNT GILEAD 27306
TEMPLE U 919 439-5511

JOHNSON, PETER GRAHAM FP AC
P. O. BOX 577 76 77 78
MOUNT GILEAD 27306
DALHOUSIE U 919 439-6831

SCARBOROUGH, CHARLES F.,JR. GP AC
PO BOX 159 46 47 50
STAR 27356
JEFFERSON 919 428-2144

62. MONTGOMERY COMPONENT SOCIETY (Continued)

WIER, FRED EUGENE GS /CDS AC
506 WOOD ST. 74 74 82
TROY 27371
LOMA LINDA U 919 572-3737

WORF, RICHARD CHARLES FP AC
508 WOOD STREET 78 79 82
TROY 27371
U OF NC 919 572-3656

63. MOORE COMPONENT SOCIETY

OFFICERS—**President:** Clifford J. Long, M.D., P.O. Box 2000, Pinehurst 28374 (919 295-5552)
Secretary: William Stewart, M.D., 195 W. Illinois Ave., Southern Pines 28387 (919 692-2444)

ALLEN, DAVID GEOFFREY ON /ON AC
PINEHURST MEDICAL CLINIC 67 67 76
PO BOX 551
PINEHURST 28374
DUKE 919 295-5511

ANDREWS, ELLEN N /P AC
PO BOX 1749 75 75 87
PINEHURST 28374
U OF VERMONT 919 295-6868

AUSTIN, HENRY VANN RHU AC
PINEHURST MEDICAL CLINIC 67 67 74
PO BOX 551
PINEHURST 28374
DUKE 919 295-5511

BRUTON, HENRY DAVID PD AC
195 W. ILLINOIS AVE. 61 61 67
SOUTHERN PINES 28387
U OF NC 919 692-2444

BULLEN, DORIS C.M. P AC
PO BOX 56 54 54 87
DARTMOUTH CLINIC, PA
SOUTHERN PINES 28387
U OF CAPE TOWN 919 692-6471

CADDELL, TILLIE HORKEY GP L
P. O. BOX 519 51 52 62
PINEHURST 28374
MED COLL OF GA 919 295-5511

CARTER, STEVEN RAYMOND AN AC
355 AZALEA RD. 78 80 82
SOUTHERN PINES 28387
BOWMAN GRAY 919 692-2273

CHIULLI, RICHARD ALLEN GS AC
137 JAMES CREEK ROAD 77 81 82
SOUTHERN PINES 28387
BOSTON U 919 295-1141

CLARK, THEODORE RUST P /N AC
PO BOX 56 51 52 75
SOUTHERN PINES 28387
HARVARD 919 692-6471

COLLINS, FRANCIS FARRELL, JR. IM /PUD AC
205 PAGE RD. 72 73 77
PINEHURST 28374
U OF VERMONT 919 295-5511

COX, STANLEY CULLEN, III OTO AC
205 CREST ROAD 68 68 76
SOUTHERN PINES N C 28387
U OF COLORADO 919 295-6831

DANIEL, LOUIS BROADDUS, JR. ORS AC
PINEHURST SURGICAL CLINIC 56 56 63
PINEHURST 28374
BOWMAN GRAY 919 295-1042

DAUGHTRIDGE, CLAY C., JR. IM /CD AC
P. O. BOX 519 59 59 67
205 PAGE ROAD
PINEHURST 28374
BOWMAN GRAY 919 295-5511

ELLIOTT, HARDIE BISHOP EM AC
47 VILLAGE GREEN 37 37 74
SOUTHERN PINES 28387
U OF TEXAS 919 692-7451

ELLIS, JOHN NELSON ORS AC
PINEHURST SURGICAL CLINIC 66 67 74
PINEHURST 28374
U OF KANSAS 919 295-6831

FELTON, ROBERT LEE, JR. GP L
PO BOX 57 27 27 30
WATERFORD, VA 22190
U OF PENN 703 882-3743

FLEURY, ROBERT ANDRE P AC
PO BOX 56 77 78 83
SOUTHERN PINES 28387
BOWMAN GRAY 919 692-6471

FRANCIS, EDWIN HOWARD EM RT
9 VILLAGE GREEN 40 41 74
SOUTHERN PINES 28387
DOWNSTATE ME CTR 919 295-7777

GADD, DUWAYNE DOUGLAS U AC
PINEHURST SURGICAL CLINIC 46 56 56
PINEHURST 28374
U OF MICHIGAN 919 295-0252

GRIER, JOHN CALVIN, JR. P L
P. O. BOX 819 40 40 47
PINEHURST 28374
JEFFERSON 919 295-6166

HARTSELL, CHARLES JACOB, JR. AN AC
MOORE MEMORIAL HOSPITAL 58 58 63
PINEHURST 28374
DUKE 919 295-6861

HASERICK, JOHN ROGER DMP /D AC
P. O. BOX 669 41 41 70
PINEHURST 28374
U OF MINN 919 295-5567

HENDERSON, GEORGE P.,JR. HNS /OTO AC
PINEHURST SURGICAL CLINIC 64 64 72
PINEHURST 28374
U OF NC 919 295-0242

HENNESSEN, JOHN A. ORS AC
PO BOX 1650 48 49 87
PINEHURST 28374
NEW YORK MED COL 919 295-4130

HIATT, JOSEPH SPURGEON, JR. IM /PUD L
1645 MIDLAND RD. 39 41 45
SOUTHERN PINES 28387
DUKE 919 295-5511

HOSTETLER, HERBERT JAMES AN AC
52 RED FOX RUN 59 60 84
PINEHURST 28374
U OF ILLINOIS 919 295-4606

HUCKS-FOLLISS, ANTHONY GEORGE NS AC
P. O. BOX 2000 69 69 75
PINEHURST 28374
U OF VIRGINIA 919 295-1843

JACOBSON, PETER LARS N /IM AC
P. O. BOX 1749 77 78 80
PINEHURST 28374
WASHINGTON U 919 295-6868

JACOBSON, SEVERT HAROLD NS AC
P. O. BOX 2000 65 65 78
PINEHURST 28374
U OF MINN 919 295-1291

JACQUES, ROBERT SAMUEL EM /FP AC
P. O. BOX 695 53 54 55
PITTSBORO 27312
LOMA LINDA U 919 295-7777

KICHERER, HARRY JAY R AC
885 ST. ANDREWS DR. 48 48 87
PINEHURST 28374
GEO WASHINGTON U 919 295-1706

KILPATRICK, WILBUR KIRBY, JR. OBG AC
P. O. BOX 2000 64 64 76
PINEHURST 28374
U OF NC 919 295-1391

KRUSE, RICHARD STEVEN DR /NM AC
PO BOX 1795 71 72 79
SOUTHERN PINES 28387
GEORGETOWN U 919 692-9667

LAM, DOUGLAS EDWARD FP AC
105 PERRY DRIVE 76 77 84
SOUTHERN PINES 28387
WAYNE STATE U 919 692-4802

LANINGHAM, JAMES E. T. PTH /BLB AC
P. O. BOX 3000 66 69 75
MOORE MEMORIAL HOSPITAL
PINEHURST 28374
MED COLL OF VA 919 295-7978

LARSEN, ERIC GS /CDS
P. O. BOX 2000 65 65
PINEHURST 28374
CASE WESTERN RES 919 295-17

LINA, JOHN RAYMOND DR /R
203 RIDGEVIEW ROAD 73 74
SOUTHERN PINES 28387
MED SCH-UMDNJ 919 295-7(

LINEBERGER, THOMAS H. IM
1901-C N. SANDHILL BLVD. 80 81
ABERDEEN 28315
U OF NC 919 692-4(

LONG, CLIFFORD JAMES OBG
P. O. BOX 2000 77 78
PINEHURST 28374
WAYNE STATE U 919 295-02

LOOMIS, FRANK JOSEPH EM /GP
527-B EAGLE ROAD 49 50
WHISPERING PINES 28327
U OF MICHIGAN 919 295-77

MARCHETTI, LOUIS JOSEPH U
MIDSOUTH UROLOGY CTR., PA 64 64
BOX 3, TWO MEMORIAL DR.
PINEHURST 28374
MED SCH-UMDNJ 919 295-24

MARTIN, ROBERT GALE OPH
2170 MIDLAND ROAD 68 68
SOUTHERN PINES 28387
U OF NC 919 295-21

MCDEVITT, NOEL BRUCE PS /PSF
1 MEMORIAL DR. 64 64
PINEHURST 28374
U OF NC 919 295-51

MCFADDEN, JAMES STUART AN
1290 E. INDIANA AVE. 71 71
SOUTHERN PINE 28387
U OF NC 919 295-71

MCLEOD, VIDA CANADAY GP L/P
WEYMOUTH APTS., BOX 2001 19 31
SOUTHERN PINES 28387
BAYLOR 919 692-03

MCMILLAN, ROBERT MONROE IM L/P
PO BOX 178 38 38
SOUTHERN PINES 28387
JOHNS HOPKINS 919 692-68

MINCEY, GREGORY JULIAN OPH
2170 MIDLAND ROAD 77 79
SOUTHERN PINES 28387
EMORY U 919 295-21(

MONROE, CLEMENT ROSENBURG GS L/P
P. O. BOX 1000 24 25
PINEHURST 28374
U OF MARYLAND 919 295-56

MONROE, JOHN LAUCHLIN OTO /HNS
PINEHURST SURGICAL CLINIC 62 62
PINEHURST 28374
U OF NC 919 295-21

MORRISON, HUGH MAXWELL, JR. OPH
P. O. BOX 460 57 57
PINEHURST 28374
U OF NC 919 295-68(

MUNSEY, FRANKLIN ALBERT PD
424 LOVE 15 DRIVE 44 49
PINEHURST 28374
BOSTON U 919 295-56

NEVILLE, CECIL HOWELL, JR. ORS
PINEHURST ORS CLINIC 60 60
P. O. BOX 1650
PINEHURST 28374
U OF NC 919 295-139

63. MOORE COMPONENT SOCIETY (Continued)

AKLEY, WARD SAYRE, JR. ORS AC
P. O. BOX 1650 75 76 84
PINEHURST 28374
U OF TENNESSEE 919 295-4200

VENS, FRANCIS LEROY GP /ABS L
510 N. W. BROAD STREET 34 35 38
SOUTHERN PINES 28387
DUKE 919 692-6022

ATTERSON, F. M. SIMMONS, JR. CD /IM AC
PO BOX 519 71 71 78
205 PAGE ROAD
PINEHURST 28374
U OF PENN 919 295-5511

ATTERSON, RONALD HALFORD ORS AC
1902-J N. SANDHILLS BLVD. 71 71 77
ABERDEEN 28315
MED COLL OF VA 919 295-1471

BILLIPS, CHARLES A. SPEAS AC
165 PAGE ROAD, #2 47 49 54
PINEHURST 28374
NORTHWESTERN U 919 295-5311

BISHKO, MICHAEL THEODORE OBG L/RT
P. O. BOX 339 36 37 45
PINEHURST 28374
DUKE 919 295-6634

BLEO, ELLEN ANNE OBG AC
CCNC, P. O. BOX 786 79 82 83
PINEHURST 28374
DUKE

BRVIS, WILLIAM HENRY U AC
404 N. HOLLY STREET 73 73 80
SILER CITY 27344
U OF NC 919 775-7146

BSTAN, STEPHEN EDWIN D /DMP AC
P. O. BOX 669 70 71 77
PINEHURST 28374
VANDERBILT U 919 295-5567

BWLAND, MICHAEL CLARK GS AC
P. O. BOX 2000 75 76 80
PINEHURST 28374
ST U OF NY-BUFF 919 295-2232

AFIR, ARAN OPH AC
2170 MIDLAND ROAD 54 56 86
SOUTHERN PINES 28387
NEW YORK U 919 295-2100

SAWYER, THOMAS R. OPH AC
PO BOX 2445 55 55 87
PINEHURST 28374
U OF MICHIGAN 919 295-2100

SCHNELL, EDWARD WALTER OPH AC
1902-D N. SANDHILLS BLVD. 54 54 77
ABERDEEN 28315
LOYOLA U 919 692-4468

SHERRINGTON, BRIAN THOMAS PD AC
195 W. ILLINOIS AVE. 73 74 77
SOUTHERN PINES 28387
U OF FLORIDA 919 692-2444

SIEGE, ALFRED GEOFFREY PH /GPM L/RT
PO BOX 786 43 65 66
PINEHURST 28374
NEW YORK MED COL 919 692-8899

SMITH, JERRY EDWARD OBG AC
PO BOX 2000 61 61 71
PINEHURST SURGICAL CLINIC
PINEHURST 28374
U OF NC 919 295-0282

SNYDER, RALPH EUGENE IM AC
MEDICAL REVIEW OF NC, INC. 50 52 79
PO BOX 37309
RALEIGH 27627
NEW YORK MED COL 919 851-2955

STAUB, ERNEST WILSON TS /CDS AC
PINEHURST SURGICAL CLINIC 57 65 66
PINEHURST 28374
NORTHWESTERN U 919 295-0266

STEWART, WILLIAM LEE PD AC
195 W. ILLINOIS AVE. 79 79 75
SOUTHERN PINES 28387
U OF NC 919 692-2444

STORCH, SAMUEL JAY U AC
PO BOX 2138 80 82 86
PINEHURST 28374
GEORGETOWN U 919 295-5507

STREET, MURDO EUGENE, JR. FP L/RT
P. O. BOX 38 37 37 42
GLENDON 27251
DUKE 919 464-5315

STUBER, ROBERT LEO PTH /DMP AC
MOORE MEMORIAL HOSPITAL 56 63 65
PINEHURST 28374
ST LOUIS U 919 295-7135

SUTHER, THOMAS CORNELIUS, JR. P /GP AC
MCCAIN HOSPITAL 56 56 70
MCCAIN 28361
U OF NC 919 944-2351

SWANTKOWSKI, THOMAS MARIAN IM /GE AC
205 PAGE RD. 78 79 86
PO BOX 519
PINEHURST 28374
TEMPLE U 919 295-5511

TARLETON, HAROLD LEWIS FP /EM AC
PO BOX 649 66 69 85
WEST END 27376
U OF CALIF-LA 919 673-2403

TART, JAMES ALVIN CD /IM AC
PINEHURST MED. CLINIC 66 66 73
205 PAGE ROAD
PINEHURST 28374
BOWMAN GRAY 919 295-5511

TATE, GEORGE WHALEY, JR. OPH AC
2170 MIDLAND ROAD 68 68 78
SOUTHERN PINES 28387
U OF TEXAS-SW 919 295-2100

WALKER, DAVID ANTHONY OPH AC
TOWN/COUNTRY SHOPPING CTR 68 68 73
ABERDEEN 28315
LA STATE U 919 944-7196

WALLACE, DONALD KAI IM /GE AC
205 PAGE ROAD 59 59 65
PINEHURST 28374
DUKE 919 295-5511

WEIDAW, HAROLD RICHARD AI /IM AC
P. O. BOX 1835 54 71 83
PINEHURST 28374
JEFFERSON 919 295-6661

WILLIAMS, DAVID LEON IM /HEM AC
540 N. W. BROAD STREET 68 68 78
SOUTHERN PINES 28387
INDIANA U 919 692-2061

64. NASH COMPONENT SOCIETY

OFFICERS—**President:** William C. Cooper, M.D., 124 Foy Dr., Rocky Mount 27801 (919 443-4031)
Secretary: Arthur L. Chambers, III, M.D. Nash General Hospital, Rocky Mount 27801 (919 443-8172)

DKINS, NEAL ASHLEY OBG AC
132 FOY DRIVE 72 72 78
ROCKY MOUNT 27801
U OF NC 919 443-6622

NDRACCHIO, VINCENT CHARLES AN AC
3709 WESTRIDGE CIRCLE DR. 56 64 64
ROCKY MOUNT 27804
JEFFERSON 919 443-8038

AGGETT, HENRY CLIFFORD OTO AC
2420 PROFESSIONAL DR. 70 70 77
P. O. BOX 7099
ROCKY MOUNT 27804
U OF NC 919 937-4100

AILEY, GEORGE TILLMAN DR AC
212 OLD COLONY WAY 81 82 80
ROCKY MOUNT 27801
U OF NC 919 443-8083

ALES, DONALD WEESNER, JR. IM AC
PO BOX 7828 82 82 85
ROCKY MOUNT 27804
U OF TENNESSEE 919 977-6746

ASS, SPENCER PIPPEN, JR. PTH AC
P. O. BOX 605 49 53 57
TARBORO 27886
U OF VIRGINIA 919 823-3114

ATTLE, MARGARET E. WHITE GYN L
521 PEACHTREE STREET 33 34 37
ROCKY MOUNT 27801
U OF MICHIGAN 919 442-2414

ATTLE, NEWSOM PITTMAN GS L
100 NASH MEDICAL ARTS MALL 26 30 31
ROCKY MOUNT 27801
U OF PENN 919 442-2414

BOBZIEN, WILLIAM FREDRICK, III HEM /IM AC
100 NASH MEDICAL ARTS MALL 69 69 74
ROCKY MOUNT 27801
GEORGETOWN U 919 443-9084

BRANTLEY, JULIAN CHISOLM, JR. GYN L/RT
1507 LAFAYETTE AVE. 44 44 48
ROCKY MOUNT 27801
JEFFERSON 919 446-8434

BROCK, JULIAN STANLEY R L/RT
200 ENGLEWOOD DRIVE 51 52 53
ROCKY MOUNT 27804
DUKE 919 443-1353

BRYANT, JAMES EDWARD FP AC
P. O. BOX 589 60 60 76
ROCKY MOUNT 27801
HOWARD U 919 977-6701

BYNUM, ROBERT WILLIAM, IV NEP /IM AC
100 NASH MEDICAL ARTS MALL 79 80 84
ROCKY MOUNT 27801
U OF NC 919 443-9084

CARTER, NEEDHAM BATTLE IM /CD RT
3811 WOODLAWN RD. 53 54 56
ROCKY MOUNT 27804
DUKE 919 977-6746

CHAMBERS, ARTHUR LLOYD EM AC
3619 WESTRIDGE CIRCLE DR. 79 79 84
ROCKY MOUNT 27801
MED U OF SC 919 443-8172

CHAMBLEE, JOHN SIGMA PH /GPM L/RT
509 E. CHURCH STREET 38 38 42
NASHVILLE 27856
EMORY U 919 459-2223

CHAMBLISS, JOHN RANDOLPH IM AC
100 NASH MEDICAL ARTS MALL 44 44 50
ROCKY MOUNT 27801
HARVARD 919 443-9084

CLEAVER, H. DEHAVEN GS /TS AC
100 MEDICAL ARTS MALL 44 53 53
ROCKY MOUNT 27801
TEMPLE U 919 443-9084

CLINE, JAMES ALEXANDER GS /EM RT
WELLONGATE APTS. H-9 49 54 79
3430 SUNSET AVE.
ROCKY MOUNT 27804
U OF MARYLAND 919 443-6444

COOPER, WILLIAM CORNELIUS, JR. PD AC
124 FOY DRIVE 60 60 67
ROCKY MOUNT 27801
DUKE 919 443-4031

CROCKER, DANIEL LIND ON /HEM AC
100 NASH MEDICAL ARTS MALL 70 70 76
ROCKY MOUNT 27801
U OF NC 919 443-9084

CRUMPLER, JAMES FULTON PD L
414 PEACHTREE STREET 30 30 35
ROCKY MOUNT 27804
NEW YORK U 919 442-1523

CRUMPLER, JAMES FULTON, JR. OTO AC
105-C FOY DRIVE 64 64 71
ROCKY MOUNT 27801
U OF NC 919 443-7878

DEANS, WILLIAM RONALD, JR. N AC
2412 PROFESSIONAL DR. 77 77 82
ROCKY MOUNT 27804
U OF TEXAS-SW 919 443-0041

64. NASH COMPONENT SOCIETY (Continued)

DERBYSHIRE, JOHN STUART IM AC
1400 BROOKWOOD DR. 71 71 76
PO BOX 7828
ROCKY MOUNT 27804
OHIO STATE U 919 977-6746

DOYLE, RAYMOND THOMAS IM /HEM AC
1400 BROOKWOOD DR. 54 56 61
PO BOX 7828
ROCKY MOUNT 27804
JOHNS HOPKINS 919 977-6746

FISH, HARRY GUSTAV, JR. GS AC
100 NASH MEDICAL ARTS MALL 48 55 56
ROCKY MOUNT 27801
DUKE 919 443-9084

FRITZ, RICHARD THOMAS R AC
PO BOX 88 76 77 85
RED OAK 27868
U OF NC 919 443-8083

FROHBOSE, WILLIAM JOSEPH U L/RT
212 PIEDMONT AVENUE 43 53 53
ROCKY MOUNT 27801
MED COLL OF VA 919 443-3136

GOLD, BENJAMIN MILLER OBG RT
1730 LAFAYETTE CIRCLE 47 47 53
ROCKY MOUNT 27801
U OF MARYLAND 919 442-4756

HAWES, MARY LINDA IM /NEP AC
100 NASH MEDICAL ARTS MALL 80 83 84
ROCKY MOUNT 27801
U OF NC 919 493-9084

HIGH, LARRY ALLISON FP L/RT
213 N. COLLINS ST. 45 45 49
NASHVILLE 27856
MED COLL OF VA 919 459-2811

HIGH, LARRY ALLISON, JR. OBG AC
132 FOY DRIVE 72 72 78
ROCKY MOUNT 27801
U OF NC 919 443-6622

HOLLAND, MICHAEL DAY IM /NEP AC
529 AVONDALE AVE. 78 79 85
ROCKY MOUNT 27801
U OF NC 919 443-9084

HORNE, STEPHEN FRANCIS D AC
120 S. PEARL STREET 42 43 49
ROCKY MOUNT 27804
DUKE 919 446-4922

JONES, WILLIAM ROBERT GP AC
600 SUNSET AVENUE 47 48 54
ROCKY MOUNT 27801
BOWMAN GRAY 919 446-4921

JUSTA, SAMUEL HARRY GP L
3546 S. OCEAN BOULEVARD 33 33 34
PALM BEACH, FL 33480
MED COLL OF VA

KINNAIRD, PAUL MCKEE, JR. PD AC
101 NASH MEDICAL ARTS MALL 76 77 86
ROCKY MOUNT 27804
U OF LOUISVILLE 919 443-8820

KORNEGAY, LEMUEL WEYHER, JR. GS AC
1041 NOELL LANE 43 43 43
ROCKY MOUNT 27801
DUKE 919 443-0168

KORNEGAY, ROBERT DUMAIS GS L
1041 NOELL LANE 39 41 43
ROCKY MOUNT 27801
DUKE 919 443-0168

KREEGER, ROBERT A. EM AC
112 TAM O'SHANTER DR. 83 83 86
ROCKY MOUNT 27804
JOHNS HOPKINS 919 443-8172

KRONCKE, FREDERICK GEORGE, JR. OBG AC
200 NASH MEDICAL ARTS MALL 70 70 75
ROCKY MOUNT 27801
U OF NC 919 443-5941

KUMAR, KAMLESH PUD /IM AC
108 N. ENGLEWOOD DR. 63 72 80
ROCKY MOUNT 27801
GSV MED COLLEGE 919 443-1126

KUMAR, SATISH KUMAR PUD /IM AC
108 N. ENGLEWOOD DR. 62 72 80
ROCKY MOUNT 27801
INST OF MED SCI 919 443-1126

LADWIG, STEPHEN HAROLD DR /NM AC
NASH GENERAL HOSPITAL 72 78 81
ROCKY MOUNT 27801
NORTHWESTERN U 919 443-8083

LEE, SOONG HYUN P AC
106 NASH MEDICAL ARTS MALL 63 72 76
ROCKY MOUNT 27804
SEOUL NATL U 919 443-8002

LIVERMAN, JOSEPH THOMAS FP AC
111 W. CHURCH STREET 53 54 57
NASHVILLE 27856
BOWMAN GRAY 919 459-4012

LOWRY, OTIS MEGEL FP AC
SPRING HOPE CLINIC 56 56 57
PO BOX 1090
SPRING HOPE 27882
U OF NC 919 478-5344

MACAULAY, ROBERT JOSEPH, JR. U AC
3136 SUNSET AVENUE 56 60 63
ROCKY MOUNT 27804
GEO WASHINGTON U 919 443-3136

MARQUEZ, PATERNO RIEGO FP AC
107 NASH MEDICAL ARTS MALL 55 70 81
ROCKY MOUNT 27804
U OF SANTO TOMAS 919 443-8810

MARSIGLI, ADOLFO HECTOR ORS /HS AC
110 NASH MEDICAL ARTS MALL 68 72 74
ROCKY MOUNT 27801
BUENOS AIRES U 919 443-8830

MARSIGLI, EDUARDO OSCAR ORS AC
110 NASH MEDICAL ARTS MALL 68 67 76
ROCKY MOUNT 27801
BUENOS AIRES U 919 443-8830

MARTIN, WILLIS ELWOOD D /IM AC
112 NASH MEDICAL ARTS MALL 74 74 82
ROCKY MOUNT 27804
U OF NC 919 443-8937

MARTINEZ, LUCAS J. NS AC
P. O. BOX 7514 68 68 82
ROCKY MOUNT 27801
U OF MADRID

MATHES, GORDON LAWRENCE, JR. U AC
3136 SUNSET AVE. 76 77 84
ROCKY MOUNT 27801
U OF TENNESSEE 919 443-3136

MCAULIFFE, JOHN EDWARD AN AC
3709 WESTRIDGE CIRCLE DR. 79 80 86
ROCKY MOUNT 27801
U OF CA-DAVIS 919 443-2125

MICHAL, RICHARD GLENN FP AC
1041 NOELL LANE, STE. 101 80 83 78
ROCKY MOUNT 27801
DUKE 919 443-3133

MITCHELL, JOHN SCOTT FP AC
1041 NOELL LANE, STE. 101 72 72 85
ROCKY MOUNT 27801
U OF VIRGINIA 919 443-3133

MORGAN, BENJAMIN EDWARD OBG AC
200 NASH MEDICAL ARTS MALL 47 48 54
ROCKY MOUNT 27801
BOWMAN GRAY 919 443-5941

OVERTON, DOLPHIN HENRY,JR. OBG AC
132 FOY DRIVE 53 61 61
ROCKY MOUNT 27801
DUKE 919 443-6622

PAYNE, FRED WILLIAM, JR. GS AC
100 NASH MEDICAL ARTS MALL 53 61 61
ROCKY MOUNT 27801
VANDERBILT U 919 443-9084

PITTMAN, WILLIAM BRYAN GE /IM AC
100 NASH MEDICAL ARTS MALL 71 76 79
ROCKY MOUNT 27804
U OF NC 919 443-9084

PROCTOR, CAMILLA ALLYN PUD AC
3009 ZEBULON ROAD 68 68 74
ROCKY MOUNT 27801
U OF NC 919 443-2552

RAMSEY, EDWARD ALLISON PD AC
124 FOYE DRIVE 75 75 78
ROCKY MOUNT 27804
BOWMAN GRAY 919 443-4031

RATCHFORD, GEORGE RUFUS, JR. IM AC
100 NASH MEDICAL ARTS MALL 56 56 62
ROCKY MOUNT 27801
DUKE 919 443-9084

ROBERTSON, LEON WHITFIELD FP /OM AC
107 MEDICAL ARTS MALL 45 45 4
ROCKY MOUNT 27801
BOWMAN GRAY 919 443-881

SEIGMAN, EDWIN LINCOLN DR L
105 BUNN DRIVE 41 52 5
ROCKY MOUNT 27804
U OF MARYLAND 919 443-204

SHERIDAN, ROBERT JOHN PD AC
101 NASH MEDICAL ARTS MALL 48 53 5
ROCKY MOUNT 27804
DUKE 919 443-882

SHUMWAY, DAVID LUCIUS EM AC
112 CANDLEWOOD ROAD 75 76 8
ROCKY MOUNT 27804
U OF ILLINOIS 919 937-658

SIRISENA, OMATTA MUDALIGE IM /P AC
117 FOY DRIVE 64 75 7
ROCKY MOUNT 27801
U OF CEYLON 919 443-767

SMALL, FAIRLEIGH DAVID EM AC
3605 SHEFFIELD DR. 78 80 8
ROCKY MOUNT 27803
U TX-SAN ANTONIO 919 443-817

SMITH, CLAIBORNE THWEATT IM L
100 MEDICAL ARTS MALL 18 18 2
ROCKY MOUNT 27801
U OF PENN 919 442-291

SMITH, TIMOTHY CARL IM AC
1400 BROOKWOOD DR. 71 71 7
PO BOX 7828
ROCKY MOUNT 27804
OHIO STATE U 919 937-408

STEINER, MICHAEL LEE OPH AC
3044 SUNSET AVE., STE. 100 7
ROCKY MOUNT 27804
WEST VA U 443-612

STEKLOFF, SHELDON HARVEY AN AC
3741 SUNSET AVE. APT. A-1 69 74 7
ROCKY MOUNT 27804
U OF COLORADO 919 937-428

STOVER, JOHN OLIVER, JR. DR /NM AC
P. O. BOX 42 68 68 7
RED OAK 27868
MED COLL OF VA 919 443-808

SUITER, THOMAS B., JR. IM AC
100 NASH MEDICAL ARTS MALL 46 49 4
ROCKY MOUNT 27801
DUKE 919 443-908

SUTTON, JULIAN T. GS /FP AC
DRAWER 100 51 51 5
SCOTLAND NECK 27874
U OF MARYLAND 919 826-314

THORP, JAMES HORACE MERRIAM OBG AC
200 NASH MEDICAL ARTS MALL 57 57 6
ROCKY MOUNT 27804
U OF NC 919 443-594

THORP, LEWIS SUMNER FP /FP AC
100 MEDICAL ARTS MALL 52 52 5
ROCKY MOUNT 27801
U OF PENN 919 443-908

TODD, STUART KITTREDGE GS AC
100 NASH MEDICAL ARTS MALL 73 74 8
ROCKY MOUNT 27801
U OF TENNESSEE 919 443-908

WALL, WILLIAM STANLEY GP L
330 S. W. MAIN STREET 33 33 3
ROCKY MOUNT 27801
U OF PENN 919 446-495

WARREN, JULIAN MARION FP AC
P. O. BOX 1120 56 57 5
SPRING HOPE 27882
U OF VIRGINIA 919 478-460

WEEKS, KENNETH DURHAM IM /CD L
1400 BROOKWOOD DR. 39 40 4
PO BOX 7828
ROCKY MOUNT 27804
DUKE 919 977-6746

WHISNANT, JOSEPH DURWOOD, JR. U AC
3136 SUNSET AVE. 71 71 8
ROCKY MOUNT 27801
BOWMAN GRAY 919 443-313

64. NASH COMPONENT SOCIETY (Continued)

/HITAKER, JAMES ALLEN U L
624 FALLS ROAD 33 34 35
ROCKY MOUNT 27804
TEMPLE U 919 442-3516

/ILSON, MOSES ELLUED OBG AC
140 N. ENGLEWOOD DR. 76 76 85
ROCKY MOUNT 27801
U OF NC 919 937-6611

YENNEY, MATTHEW F.J., JR. R /NM AC
1031 NOELL LANE 54 61 61
PO BOX 111
ROCKY MOUNT 27802
JEFFERSON 919 443-9101

ZIPF, ROBERT EUGENE, JR. PTH /FOP AC
NASH GENERAL HOSPITAL 66 66 79
ROCKY MOUNT 27801
OHIO STATE U 919 443-8043

65. NEW HANOVER-PENDER COMPONENT SOCIETY

)FFICERS—**President:** Ellis A. Tinsley, M.D., 1414 Medical Center Dr., Wilmington 28401 (919 763-7363)
Secretary: D. Wayne Varner, M.D., 346 Honeycutt Dr., Wilmington 28403 (919 791-2311)
Executive Director: Bonnie J. Brown, 103 Green Meadows Dr., Wilmington 28405 (919 791-6952)

LLEN, MOLLY VIRGINIA OPH AC
1120 MEDICAL CENTER DR. 80 80 85
WILMINGTON 28401
U TX-SAN ANTONIO 919 763-7316

LMKUIST, RALPH DURWOOD, II NEP /IM AC
1302 MEDICAL CENTER DRIVE 71 71 78
WILMINGTON 28401
BOWMAN GRAY 919 763-3651

LMOND, CHARLES MALCOLM FP AC
1602 DOCTOR'S CIRCLE 70 70 75
WILMINGTON 28401
U OF NC 919 763-5471

NAGNOST, JOHN WILLIAM IM /HEM AC
1515 DOCTORS CIRCLE 78 86 86
WILMINGTON 28401
JEFFERSON 919 763-5182

NDERSON, ELBERT CARL OPH L/RT
3208 OLEANDER DR. 37 37 39
WILMINGTON 28403
NORTHWESTERN U 919 763-6265

NDERSON, LANDON BUTLER ORS AC
1222 MEDICAL CENTER DRIVE 72 78 79
WILMINGTON 28401
VANDERBILT U 919 763-2977

NDREWS, LEON POLK IM RT
1902 DRUID LANE 45 53 79
WILMINGTON 28403
HARVARD 919 343-0167

NDREWS, ROBERT JACKSON IM AC
5305 WRIGHTSVILLE AVENUE 46 48 51
WILMINGTON 28403
U OF TENNESSEE 919 791-2626

RMISTEAD, HOWARD LACY,JR. FP /OM AC
2108 S. SEVENTEENTH STREET 66 67 68
WILMINGTON 28401
U OF VIRGINIA 919 762-7776

SSEVERO, MICHAEL LAWRENCE OBG AC
1502 PRINCESS ST. 81 81 85
WILMINGTON 28401
MEHARRY MED COLL 919 762-8662

BACHMAN, DAVID STANLEY N /CHN AC
1202 MEDICAL CENTER DR. 69 76 84
WILMINGTON 28401
JOHNS HOPKINS 919 341-3359

BASHFORD, ROBERT ALONZO OBG AC
2215 CANTERWOOD DRIVE 71 71 75
WILMINGTON 28401
U OF NC 919 343-1031

BEAR, SIGMOND AARON GYN AC
3712-B RESTON COURT 48 52 52
WILMINGTON 28403
JOHNS HOPKINS 919 686-9565

BLACK, JOHN ALEXANDER R AC
2206 LYNNWOOD DR. 81 84 80
WILMINGTON 28403
BOWMAN GRAY 919 343-7000

BLACK, PAUL ADRIAN L. OALR/OPH L
5553 OLEANDER DRIVE 33 33 38
WILMINGTON NC 28403
LOMA LINDA U 919 799-2226

BOTROS, SHERIF BOTROS OTO AC
1625 DOCTOR'S CIRCLE 75 79 81
WILMINGTON 28401
U OF NC 919 762-0234

BREWBAKER, STEPHEN LEWIS OBG AC
1134 SHIPYARD BLVD. 81 82 86
WILMINGTON 28403
BOWMAN GRAY 919 799-4311

BROWN, ALBERT BELMONT GYN AC
1615 DOCTOR'S CIR. 43 67 67
WILMINGTON 28401
QUEENS U 919 343-1122

BUNN, DAVID GLENN, JR. OBG AC
2215 CANTERWOOD DR. 75 76 80
WILMINGTON 28401
U OF NC 919 763-1031

BURDETTE, FRED MCPHERSON, JR. GP L/RT
1221 D COLUMBUS CIRCLE 42 47 48
WILMINGTON 28403
MED U OF SC 919 457-6865

BUTLER, FREDERICK CLARENCE, JR OPH AC
1915 GLEN MEADE ROAD 61 61 67
WILMINGTON 28403
DUKE 919 763-3601

CALLAWAY, SAMUEL CLAYTON, JR. OTO AC
2311 DELANEY ROAD 63 63 72
WILMINGTON 28403
EMORY U 919 762-8754

CASHMAN, JOHN U AC
1905 GLEN MEADE ROAD 65 66 73
WILMINGTON 28403
JEFFERSON 919 763-6251

CAUGHEY, DALE WELLS, JR. IM AC
5305-A WRIGHTSVILLE AVENUE 70 70 73
WILMINGTON 28403
DUKE 919 799-4220

CHEN, CHIH-CHENG FRANK N AC
1608 WELLINGTON AVENUE 69 77 82
WILMINGTON 28401
TAIPEI MED COLL 919 395-5521

CHESSON, ARTHUR SAUNDERS, JR. PD AC
1501 DOCK ST. 54 54 56
WILMINGTON 28401
BOWMAN GRAY 919 762-1744

CODINGTON, JOHN BONNELL GS AC
1501 MEDICAL CENTER DRIVE 53 53 58
WILMINGTON 28401
U OF MARYLAND 919 763-6289

COLEMAN, GORDON DONALD PD AC
1920 S. 16TH ST. 75 76 79
WILMINGTON 28401
MED U OF SC 919 762-3942

COMBS, JOHN GILBERT, JR. R AC
2318 BLYTHE ROAD 66 66 73
WILMINGTON 28403
U OF TENNESSEE 919 392-2610

CONLEY, MARTIN JAMES, JR. CD /IM AC
1515 DOCTOR'S CIRCLE 73 73 83
WILMINGTON 28401
DUKE 919 763-5182

CRACKER, ANDREW ROBERT OBG AC
1809 GLEN MEADE ROAD 62 67 67
WILMINGTON 28401
MED U OF SC 919 763-9833

CRAVEN, THOMAS, JR. ORS AC
2001 S. 17TH STREET 58 58 64
WILMINGTON 28401
U OF NC 919 763-7344

CREDLE, WILLIAM FRONTIS, JR. PUD /IM AC
1202 MEDICAL CENTER DRIVE 67 67 75
WILMINGTON 28401
MED COLL OF VA 919 763-8251

CREIGHTON, ROBERT KILGO OBG AC
6442 SHINNWOOD RD. 61 61 70
WILMINGTON 28403
U OF NC 919 256-6356

CROUCH, WALTER LEE PD RT
1902 BREWTON COURT 46 46 52
WILMINGTON 28403
U OF MARYLAND 919 762-3619

DALEY, JOHN GILBERT OBG /END AC
2143 ECHO LANE 55 56 77
WILMINGTON 28403
YALE 919 343-0161

DEES, JOHN TYLER FP /PH AC
COURTHOUSE AVE., PO BOX 815 52 52 54
BURGAW 28425
DUKE 919 259-2161

DICKIE, JAMES WILLIAM GS L/RT
448 WAYNE DRIVE 42 47 47
WILMINGTON 28403
U OF VIRGINIA 919 762-8429

DINEEN, JAMES ROBERT ORS AC
1616 MEDICAL CENTER DRIVE 45 58 65
WILMINGTON 28401
U OF ROCHESTER 919 762-2655

DONAHUE, MICHAEL JOSEPH D AC
1505 MEDICAL CENTER DRIVE 67 67 73
WILMINGTON 28401
CREIGHTON U 919 763-1555

DORMAN, BRUCE HUGH ORS AC
2001 S. 17TH STREET 48 55 55
WILMINGTON 28401
DUKE 919 763-7344

DUROCHER, KEVIN HOWARD P AC
2311 CANTERWOOD DR. 81 85 85
WILMINGTON 28401
U OF WISCONSIN 919 762-9606

EAKINS, JOEY WILLIAM ID AC
ROUTE #3, BOX 303-K 70 70 72
WILMINGTON 28403
BOWMAN GRAY 919 763-3651

EATON, HUBERT ARTHUR, JR. IM AC
P. O. BOX 982 69 69 74
WILMINGTON 28401
MEHARRY MED COLL 919 763-5453

FALES, ROBERT MARTIN GS L/RT
407 W. RENOVAH CIRCLE 32 32 36
WILMINGTON 28403
JEFFERSON 919 762-1285

FICKLEN, CONWAY HAMILTON OBG AC
1912 MEETINGS COURT 54 59 59
WILMINGTON 28401
U OF VIRGINIA 919 763-8471

FISSCHER, ROLF HENDRIK P /N AC
2023 S. 17TH ST. 55 62 64
WILMINGTON 28401
U OF LEIDEN 919 343-0151

FULK, ROBERT VERNON, JR. OTO AC
2311 DELANEY AVENUE 65 65 74
WILMINGTON 28403
U OF NC 919 762-8754

GARG, SHYAM LAL IM AC
HAMPSTEAD MEDICAL CTR. 76 81 87
HAMPSTEAD 28443
919 270-2722

GETZ, DONALD DAVID ORS AC
1616 MEDICAL CENTER DRIVE 66 66 75
WILMINGTON 28401
JEFFERSON 919 762-2655

GILLEN, HOWARD WILLIAM N AC
1301 CYPRESS GROVE DR. 49 50 73
WILMINGTON 28401
U OF ILLINOIS 919 762-8501

65. NEW HANOVER-PENDER COMPONENT SOCIETY (Continued)

GONZALEZ, JORGE JOSE IM /END AC
2131 S. 17TH STREET 71 76 79
WILMINGTON 28401
U OF CHILE 919 343-0161

GOTTOVI, DANIEL PUD /IM AC
1202 MEDICAL CENTER DRIVE 65 65 71
WILMINGTON 28401
U OF ROCHESTER 919 341-3300

GOTTSCHALK, BERNARD J. HEM /ON AC
1202 MEDICAL CENTER DR. 81 82 86
WILMINGTON 28401
U OF PITTSBURGH 919 762-2990

GRAHAM, CHARLES PATTISON GS L/RT
201 FOREST HILLS DRIVE 32 32 37
WILMINGTON 28403
HARVARD 919 762-0385

HAINES, RICHARD LITTLETON IM /GP AC
HIGHWAY 17, 47 47 82
P. O. BOX 565
HAMPSTEAD 28443
U OF VIRGINIA 919 270-3561

HALL, GREGORY GRAYSON AN AC
2144 ECHO LANE 83 85 86
WILMINGTON 28403
DUKE

HARE, RANSOM BRYANT, JR. U L/RT
841 HANOVER DR. 30 30 34
GRIFFIN, GA 30223
MED U OF SC

HARSHBARGER, JOHN LYNN RHU /A AC
1202 MEDICAL CENTER DR. 80 82 86
WILMINGTON 28401
TEMPLE U 919 341-3350

HAWTHORNE, HENRY CLAIBORNE, JR PD AC
1920 S. 16TH STREET 67 67 74
WILMINGTON 28401
U OF VIRGINIA 919 763-2072

HELAK, JOSEPH WALTER CD /IM AC
410 R. L. HONEYCUTT 75 77 84
WILMINGTON 28403
SYRACUSE 919 341-3400

HICKS, CHARLES MONTGOMERY PD AC
1914 GLEN MEADE ROAD 62 62 73
WILMINGTON 28403
U OF NC 919 762-2651

HOEPPNER, DAVID LAWRENCE EM AC
3710 SHIPYARD 65 75 85
WILMINGTON 28403
U OF MANITOBA 919 791-0075

HOLT, WILLIAM REUBEN, JR. CD /IM AC
1515 DOCTOR'S CIRCLE 77 80 83
WILMINGTON 28401
MED COLL OF VA 919 763-5182

HOOPER, JOSEPH WARD, JR. U AC
2216 GILLETTE DR. 46 46 53
WILMINGTON 28403
HARVARD 919 763-6251

HUNDLEY, JAMES DAVENPORT ORS AC
2001 S. 17TH STREET 67 67 76
WILMINGTON 28401
U OF NC 919 763-7344

HUNT, OLIVER RAYMOND, JR. CDS /TS AC
1607 DOCTOR'S CIRCLE 51 51 72
WILMINGTON 28401
U OF LOUISVILLE 919 763-6571

HUNTER, JOHN DANE ON /HEM AC
1202 MEDICAL CENTER DRIVE 76 78 82
WILMINGTON 28403
DUKE 919 762-2990

HUTCHINS, ROBERT HAROLD IM AC
2015 S. LIVE OAK PARKWAY 76 76 79
WILMINGTON 28403
U OF NC 919 343-8191

JAMES, JOSEPH MCCRAW R AC
2622 MIMOSA PLACE 55 55 63
WILMINGTON 28403
DUKE 919 343-7069

JOHNSON, DONALD GENE R /NR AC
2212 DELANEY AVENUE 74 75 84
WILMINGTON 28403
WEST VA U 919 383-7070

JOHNSON, HEBER WELLINGTON OBG /GS L
417 BRADLEY CREEK POINT 39 47 48
WILMINGTON 28403
HARVARD 919 256-2040

JONES, ROBERT BOYD OTO AC
2311 DELANEY ROAD 64 64 72
WILMINGTON 28403
U OF VIRGINIA 919 762-8754

JORDAN, HENRY DAVIDSON PTH AC
P. O. BOX 9000 66 67 75
WILMINGTON 28402
EMORY U 919 343-7074

KASH, STEPHEN LEE OPH AC
1120 MEDICAL CENTER DRIVE 68 68 76
WILMINGTON 28401
WASHINGTON U 919 763-7316

KESLER, JAMES L. OPH AC
1120 MEDICAL CENTER DRIVE 75 76 80
WILMINGTON 28401
WASHINGTON U 919 763-7316

KITTINGER, JOSEPH WILLIAM, III GE AC
1202 MEDICAL CENTER DR. 80 80 85
WILMINGTON 28401
U OF ARKANSAS 919 341-3345

KNOX, ANGELINA VINLUAN EDRALIN PD AC
2304 DELANEY AVENUE 59 59 72
WILMINGTON 28401
U OF SANTO TOMAS 919 763-3349

KOSERUBA, GEORGE MICHAEL PD L
1628 DOCTOR'S CIRCLE 40 42 44
WILMINGTON 28401
LOMA LINDA U 919 763-2476

KROHN, JOHN RAMON PS AC
2305 CANTERWOOD DR. 66 67 75
WILMINGTON 28401
U OF MINN 919 343-0119

LEACH, WILLIAM B. PTH RT
306 WIDGEON DR. 44 44 70
HAMPSTEAD 28443
U OF MANITOBA 919 270-4772

LEWIS, CLIFFORD T. IM AC
637 S. KERR AVENUE 67 67 74
WILMINGTON 28403
U OF NC

LIPOVAN, MIRCEA BREITZ R AC
3707-C RESTON CT. 62 77 86
WILMINGTON 28401 919 395-8180

LOVETTE, KENNETH MAURICE OBG AC
1612 DOCTORS CIRCLE 79 80 83
WILMINGTON 28401
U OF NC 919 343-0161

MACKAY, JAMES CALVIN IM /PUD AC
1928 S. 16TH STREET 47 54 54
WILMINGTON 28401
BOWMAN GRAY 919 762-5292

MACQUEEN, DONALD MILES A /PD AC
2321 DELANEY AVENUE 69 69 73
WILMINGTON 28403
U OF NC 919 763-1661

MALOY, THOMAS HOWARD OPH AC
2310 DELANEY AVENUE 71 71 80
WILMINGTON 28401
U OF ALABAMA 919 763-3664

MANCUSI-UNGARO, PETER CURT HEM /ON AC
2131 S. SEVENTEENTH STREET 68 69 75
WILMINGTON 28401
U OF MIAMI 919 343-0161

MARBURG, KENNETH CHARLES EM /FP AC
343 BRADLEY DR. 70 73 85
WILMINGTON 28403
U OF MARYLAND 919 791-0075

MARKWORTH, JAMES WARREN ORS AC
1222 MEDICAL CENTER DRIVE 69 70 79
WILMINGTON 28401
HARVARD 919 763-2977

MARSHBURN, ELISHA THOMAS, JR. IM AC
3208 OLEANDER DRIVE 47 48 54
WILMINGTON 28403
BOWMAN GRAY 919 762-9621

MASON, DAVID PENDLETON OBG AC
1809 GLEN MEADE ROAD 75 76 79
WILMINGTON 28403
U OF NC 919 762-9807

MASON, LOCKERT BEMISS GS AC
NEW HANOVER MEM. HOSP. 45 45 52
WILMINGTON 28401
MED COLL OF VA 919 343-0161

MASTRANGELO, MICHAEL ROCCO GE AC
1515 DOCTOR'S CIRCLE 78 79 8
WILMINGTON 28401
U OF KENTUCKY 919 763-518

MATTHEWS, WILBUR P. AC
1822 GLEN MEADE ROAD 61 00 6
WILMINGTON 28401
U OF NC

MATTOX, WILLIAM JOSEPH FP AC
1814 GLEN MEADE ROAD 59 59 7
WILMINGTON 28403
U OF ARKANSAS 919 763-547

MAXWELL, JOHN GARY GS AC
2131 S. 17TH ST. 58 62 8
WILMINGTON 28402
U OF UTAH 919 343-016

MCCOY, RALPH CARLISLE PTH AC
1952 HILLSBORO ROAD 67 68 7
WILMINGTON 28401
EMORY U 919 343-707

MCMILLAN, JAMES FULFORD P RT
1301 LIVE OAK PARKWAY 47 48 5
WILMINGTON 28403
BOWMAN GRAY 919 762-817

MCMURRY, JOHN EUGENE, JR. OTO AC
2311 DELANEY AVE. 80 82 8
WILMINGTON 28401
U OF NC 919 762-386

MEYER, CLINTON LOUIS GE /IM AC
1202 MEDICAL CENTER DR. 78 78 8
WILMINGTON 28401
U NEWFOUNDLAND 919 341-334

MEYERSON, MARTIN BENJAMIN TR AC
NEW HANOVER MEM. HOSP. 68 69 7
WILMINGTON 28403
U OF ILLINOIS 919 343-701

MOBLEY, THOMAS BARNETT, III U AC
1905 GLEN MEADE ROAD 72 73 7
WILMINGTON 28403
MED COLL OF GA 919 763-625

MOORE, HORACE GREELEY, JR. GS /TS AC
1414 MEDICAL CENTER DRIVE 45 53 5
WILMINGTON 28401
JOHNS HOPKINS 919 763-736

MOORE, RALPH BRYAN, JR. PD AC
CHILDREN'S CLINIC 52 56 5
1920 16TH STREET
WILMINGTON 28403
CORNELL U 919 763-207

MOORE, ROBERT ALEX, JR. NS AC
1404 MEDICAL CENTER DRIVE 51 52 6
WILMINGTON 28401
BOWMAN GRAY 919 763-657

MOORE, ROBERT MORGAN ORS AC
2001 S. 17TH STREET 75 81 8
WILMINGTON 28401
VANDERBILT U 919 763-734

MORGAN, HERMAN GRADY, JR. PD AC
1920 S. 16TH ST. 77 78 8
WILMINGTON 28401
U OF NC 919 762-394

MORGAN, JOEL CLARENCE CDS AC
1414 MEDICAL CENTER DR. 78 79 8
WILMINGTON 28401
BOWMAN GRAY 919 763-736

MORRIS, KENNY JORDAN R AC
216 OYSTER BAY LN. 62 62 6
WILMINGTON 28403
U OF NC 919 343-706

MUSSELWHITE, NEILL HECTOR,III FP AC
1602 DOCTOR'S CIRCLE 75 75 7
WILMINGTON 28401
BOWMAN GRAY 919 763-189

NANCE, CHARLES LEE, JR. ORS AC
2001 S. 17TH STREET 59 59 6
WILMINGTON 28401
DUKE 919 763-734

NICKS, DENNIS BART PS /HS AC
2305 CANTERWOOD 77 77 8
WILMINGTON 28401
U OF MISSOURI 919 343-011

NIXON, WILLIAM PRESTON, JR. NEP /IM AC
1302 MEDICAL CENTER DRIVE 68 68 7
WILMINGTON 28401
MED COLL OF VA 919 763-365

65. NEW HANOVER-PENDER COMPONENT SOCIETY (Continued)

'QUINN, EDWARD NELSON OBG L/RT
1612 DOCTOR'S CIRCLE DRIVE 51 51 56
WILMINGTON 28401
EMORY U 919 763-9015

RMAND, JOHN WILLIAM, JR. OBG AC
1809 GLEN MEADE ROAD 56 56 60
WILMINGTON 28401
U OF NC 919 763-1505

ACE, JOHN SANDERSON AN AC
825 INLET VIEW DRIVE 71 73 77
WILMINGTON 28403
U OF MIAMI 919 256-4008

APPAS, PETER GEORGE ID /IM AC
1302 MEDICAL CENTER DR. 78 79 84
WILMINGTON 28401
U OF ALABAMA 919 763-3651

ARKER, WILLIAM PAXTON, JR. NS AC
1303 CYPRESS GROVE DR. 56 57 74
WILMINGTON 28401
VANDERBILT U 919 762-1804

ARR, ROBERT ALEXANDER EM AC
NEW HANOVER HOSPITAL 78 84 84
DEPT. OF EMERGENCY MED.
WILMINGTON 28401
DES MOINES OST 919 343-7000

EEDIN, JAMES HAROLD,JR. FP AC
P. O. BOX 1177 52 52 54
BURGAW 28425
DUKE 919 259-5721

ENCE, JAMES JEROME, JR. FP AC
2110 SOUTH 17TH ST. 59 59 62
WILMINGTON 28401
DUKE 919 763-3481

HILLIPS, WILLIAM ALLAN D AC
3208 OLEANDER DRIVE 47 53 53
WILMINGTON 28403
JEFFERSON 919 763-7333

ICKARD, HENRY MACK IM L/RT
P. O. BOX 3351 38 46 46
WILMINGTON 28401
MCGILL U 919 791-1417

IGFORD, ROBERT TOMS IM /CD L/RT
301 COLONIAL DRIVE 40 40 47
WILMINGTON 28403
U OF MARYLAND 919 762-5020

POINTS, GERALD LEE, II IM /FP AC
5305 WRIGHTSVILLE AVE. BLDG.B 65 66 66
WILMINGTON 28403
U OF KENTUCKY 919 791-3506

POLE, DONALD TALIAFERRO OBG AC
1912 TRADD COURT 73 78 82
WILMINGTON 28401
AUTONOMA U 919 343-1113

POLLOCK, HOKE DICKINSON OTO AC
1625 DOCTOR'S CIRCLE 75 75 81
WILMINGTON 28401
U OF NC 919 762-0234

POOLE, ERNEST TILGHMAN OPH /P AC
2310 DELANEY AVENUE 61 61 72
WILMINGTON 28403
DUKE 919 763-3664

PRICE, JAMES LOUIS, III OBG AC
1612 DOCTOR'S CIRCLE 75 75 80
WILMINGTON 28401
U OF NC 919 763-9015

RALLIS, MICHAEL GEORGE IM AC
301 S. MCNEIL ST. 77 79 81
PO BOX 1179
BURGAW 28425
GEO WASHINGTON U 919 259-5011

REMINGTON, JOHN LAUREN DR AC
2101 S. LIVE OAK PARKWAY 79 81 85
WILMINGTON 28403
U OF SOU FLORIDA 919 762-3882

REYNOLDS, FRANK RUSSELL PD AC
1613 DOCK STREET 44 44 50
WILMINGTON 28401
U OF PENN 919 763-4272

RIEMAN, GILBERT FLETCHER OBG RT
2148 ECHO LANE 52 52 73
WILMINGTON 28403
U OF VIRGINIA 919 343-0161

ROBERTS, LLOYD EUGENE OBG AC
1612 DOCTOR'S CIRCLE 69 72 79
WILMINGTON 28401
U OF COLORADO 919 763-9015

ROBINSON, NORMAN JEFFREY CD /IM AC
2131 S. 17TH ST. 63 63 71
PO BOX 9000
WILMINGTON 28402
DUKE 919 343-0161

ROBISON, WILLIAM PETERSON P AC
2023 SOUTH 17TH STREET 51 51 78
WILMINGTON 28401
MED COLL OF GA 919 343-0151

ROSENBERG, ERIC RONALD DR AC
1924 S. LIVE OAK PARKWAY 75 75 84
WILMINGTON 28403
NEW YORK MED COL 919 762-3882

RUST, CARL KING, II GE /IM AC
1202 MEDICAL CENTER DR. 68 68 77
WILMINGTON 28401
BOWMAN GRAY 919 341-3300

SAMPSON, JOSEPH LUTHER, JR. PS /GS AC
346 SHANDY LANE 61 61 78
WILMINGTON 28401
MED COLL OF VA 919 343-9774

SCHMIDT, CARL JACOB OM AC
GENERAL ELECTRIC CO. 64 65 83
P.O.BOX 780, M/C B06
WILMINGTON 28401
U OF LOUISVILLE 919 343-5320

SCOTT, CHARLES MATTHEW GS /CDS AC
543 MASONBORO SOUND RD. 75 80 83
WILMINGTON 28403
U OF CINCINNATI 919 763-6289

SCULLY, KEVIN SLEAN ORS AC
1616 MEDICAL CENTER DR. 78 80 84
WILMINGTON 28401
U OF VIRGINIA 919 762-2655

SEIDEL, MURRAY KAYE ORS AC
1222 MEDICAL CENTER DRIVE 65 66 73
WILMINGTON 28401
U OF PENN 919 763-2977

SHAH, JYOTSNA RAMESH AN AC
116 ROBERT E. LEE DRIVE 63 64 81
WILMINGTON 28403
U OF BOMBAY 919 763-4901

SHAH, RAMESH MANHARLAL OBG AC
116 ROBERT E. LEE DRIVE 64 67 73
WILMINGTON 28401
BARODA U 919 791-2301

SHAPIRO, DANIEL ALLEN AN AC
329 TRAILS END ROAD, #4 78 79 85
WILMINGTON 28403
U OF NC 919 343-7000

SHEARIN, WILBURN THADDEUS, JR. U AC
1905 GLEN MEADE ROAD 54 54 56
WILMINGTON 28403
BOWMAN GRAY 919 763-6251

SHUFORD, WILLIAM FERRELL, JR. GE AC
1515 DOCTOR'S CIRCLE 61 61 67
WILMINGTON 28401
U OF NC 919 763-5182

SINCLAIR, ROBEY THOMAS, JR. DR L/RT
5301 WRIGHTSVILLE AVENUE 38 38 40
WILMINGTON 28401
GEORGETOWN U 919 395-8100

SINGLETARY, HENRY PATE PTH AC
2131 S. 17TH ST. 53 56 60
WILMINGTON 28401
NORTHWESTERN U 919 343-7074

SLOAN, DAVID BRYAN, JR. OPH AC
1915 GLEN MEADE ROAD 63 63 70
WILMINGTON 28403
U OF PENN 919 763-3601

SLOAN, JAMES BOYKIN OPH AC
1915 GLEN MEADE ROAD 70 70 74
WILMINGTON 28401
U OF NC 919 763-3601

SMALLEY, ROBERT ROWAN GS AC
5305-F WRIGHTSVILLE AVENUE 54 54 73
WILMINGTON 28403
MCGILL U 919 799-5400

SMITH, CHARLES GORDON FP /EM L/RT
118 BEAGLE TRAIL 40 43 43
WILMINGTON 28403
U OF PENN 919 799-1873

SMITH, PHILIP PALMER OM /IM AC
P. O. BOX 2042 62 62 71
WILMINGTON 28402
U OF ILLINOIS 919 371-4080

SNYDER, JAMES WILLIAM CD /IM AC
1515 DOCTOR'S CIRCLE 69 69 74
WILMINGTON 28401
U OF NC 919 763-5182

SOLOMON, DONALD JEFFREY N AC
1202 MEDICAL CENTER DR. 81 81 81
WILMINGTON 28401
STANFORD U 919 341-3300

SOLOMON, ROBERT DOUGLAS PTH /GER AC
113 S. BELVEDERE DR. 42 42 86
HAMPSTEAD 28443
JOHNS HOPKINS 919 270-2019

SPIVEY, DAVID LEE AN AC
905 RABBIT RUN RD. 81 83 85
WILMINGTON 28403
U OF NC 919 762-4901

STEWART, GEORGE TERRY OBG AC
2215 CANTERWOOD DRIVE 71 71 75
WILMINGTON 28401
U OF NC 919 343-1031

SUVILLAGA, VICTOR IVAN FP /EM AC
5097 EDINBORO LN. 77 83 83
WILMINGTON 28403
U EL SALVADOR 919 395-6273

TACKETT, AMOS DARRELL GS AC
1414 MEDICAL CENTER DRIVE 69 74 79
WILMINGTON 28401
VANDERBILT U 919 763-7363

TAMISIEA, J. RICHARD CD /IM AC
1202 MEDICAL CENTER DRIVE 64 64 73
WILMINGTON 28401
CREIGHTON U 919 341-3301

TAN, RICARDO MIJARES GS /ABS AC
2301 DELANEY AVENUE 58 67 67
WILMINGTON 28403
U OF SANTO TOMAS 919 763-0159

TAYLOR, BRITTON EDGAR OBG AC
2215 CANTERWOOD DRIVE 63 63 74
WILMINGTON 28401
MED COLL OF VA 919 343-1031

TAYLOR, WILLIAM IVEY, JR. GP RT
ROUTE #3, BOX 3680 41 41 46
BURGAW 28425
JEFFERSON 919 259-2301

TEMPLE, RUFUS HENRY, JR. OBG AC
2215 CANTERWOOD DR. 76 76 81
WILMINGTON 28401
U OF NC 919 763-8471

THOMAS, ALAN EFIRD IM AC
SOUTHEASTERN MEDICAL GROUP 74 74 77
637 S. KERR AVENUE
WILMINGTON 28401
MED COLL OF GA 919 799-1810

†THOMAS, DAVID PRYSE ORS L/RT
ROUTE #3, BOX 303 38 56 56
WILMINGTON 28403
U OF PENN 919 791-0650

THOMAS, MICHAEL BEMAN FP AC
1908 MEETING COURT 79 81 86
WILMINGTON 28401
U OF MICHIGAN 919 762-1515

THOMPSON, GEORGE R. C. FP L/RT
129 OLDE POINT RD. 39 42 43
HAMPSTEAD 28443
MED U OF SC 919 270-2196

TIDLER, JAMES IM AC
1919 S. SIXTEENTH STREET 44 49 50
WILMINGTON 28401
MED COLL OF VA 919 763-8184

TINSLEY, ELLIS ALLAN, SR. GS /TS AC
1414 MEDICAL CENTER DRIVE 59 67 67
WILMINGTON 28401
VANDERBILT U 919 763-7363

UNSICKER, CARL LESTER ORS AC
5305-F WRIGHTSVILLE AVE. 67 68 76
WILMINGTON 28403
U OF IOWA 919 395-0684

65. NEW HANOVER-PENDER COMPONENT SOCIETY (Continued)

VAN NYNATTEN, FRED H. IM /EM AC
1990 S. 16TH 74 75 82
WILMINGTON 28401
U OF BRUXELLES 919 256-4555

VAN-VELSOR, HARRY D AC
1924 S. SIXTEENTH STREET 47 54 54
WILMINGTON 28401
ALBANY MED COLL 919 762-5207

VARNER, D. WAYNE PTH AC
346 HONEYCUTT DR. 76 78 84
WILMINGTON 28403
MED U OF SC 919 395-8177

VERNON, CHARLES ROBERTSON P AC
7230 WRIGHTSVILLE AVENUE 52 52 56
WILMINGTON 28403
CASE WESTERN RES 919 256-4106

WALKER, ELMER PIXLEY GYN L/RT
20 FOREST HILLS DR. 36 36 41
WILMINGTON 28403
EMORY U 919 763-2946

WARD, MICHAEL MUNDY EM AC
520 SHANDY LANE 77 79 82
WILMINGTON 28403
U OF NC 919 791-2059

WARNER, JEANETTE PRESTON AC
206 W. BLACKBEARD ROAD 81 81 84
WILMINGTON 28403
U OF NY-ST BROOK 919 343-7000

WARNER, MARK FRANCIS CD /IM AC
1202 MEDICAL CENTER DR. 77 78 84
WILMINGTON 28401
U OF VIRGINIA 919 763-8251

WARSHAUER, SAMUEL EDWARD IM /CD L
1514 DOCTORS CIRCLE 36 36 46
WILMINGTON 28401
MED COLL OF VA 919 762-1813

WEINEL, WILLIAM HARVEY GYN AC
1809 GLEN MEADE ROAD 54 54 58
WILMINGTON 28403
U OF NC 919 763-9833

WEINSTEIN, ROBERT HARVEY P AC
2595 S. 17TH ST. 67 67 75
WILMINGTON 28401
U OF MISSOURI 919 799-2283

WEIS, WALTER FRANCIS, JR. ORS AC
5305 WRIGHTSVILLE AVE. BLDG. C 66 67 73
WILMINGTON 28403
JEFFERSON 919 799-9417

WELLS, EDWIN JULIUS PS AC
2209 DELANEY AVENUE 46 46 53
WILMINGTON 28403
U OF PENN 919 763-7617

WERK, EMILE EUGENE, JR. IM /END AC
2131 S. SEVENTEENTH STREET 46 46 73
WILMINGTON 28401
U OF CINCINNATI 919 343-0161

WILKINS, LUCIEN SANDERS GE AC
1202 MEDICAL CENTER DRIVE 67 67 73
WILMINGTON 28401
MED COLL OF VA 919 763-8251

WILKINSON, CHARLES ALBERT GS /TS AC
1501 MEDICAL CENTER DRIVE 56 56 64
WILMINGTON 28401
DUKE 919 763-6289

WILLIAMS, R. BERTRAM, JR. GS /TS AC
1414 MEDICAL CENTER DRIVE 43 49 51
WILMINGTON 28401
VANDERBILT U 919 763-7363

WILLIAMS, WILLIAM MARION, III PTH /CLP AC
2131 S 17TH STREET 78 79 83
WILMINGTON 28402
MED U OF SC 919 343-7074

WILSON, CLARENCE LAFAYETTE, II OBG AC
1809 GLEN MEADE ROAD 74 75 82
WILMINGTON 28403
U OF LOUISVILLE 919 763-9833

WILSON, JACK KENNEDY, JR. IM AC
637 S. KERR AVENUE 66 66 71
WILMINGTON 28401
U OF MISSISSIPPI 919 799-1810

WILSON, JACK KENNEDY, SR. GP RT
1908 HAWTHORNE ROAD 37 37 66
WILMINGTON 28403
U OF TENNESSEE 919 763-5536

WITHERS, SYDNOR TERRY, JR. IM /FP AC
5305 WRIGHTSVILLE AVE.BLDG.E 73 75 76
WILMINGTON 28403
MED COLL OF VA 919 791-5426

WITTSTEIN, PETER BRIAN OPH AC
1904 TRADD COURT 78 79 85
WILMINGTON 28401
U OF CONNECTICUT 919 762-0057

WOODWORTH, ALFRED HERMAN FP /EM AC
3930 SWEETBRIAR RD. 68 71 78
WILMINGTON 28403
ALBANY MED COLL 919 392-3216

WORTMAN, JAMES EDWARD ON /HEM AC
715 FOREST HILLS DRIVE 74 74 79
WILMINGTON 28403
NORTHWESTERN U 919 763-5182

YUE, BYONG HAK GS AC
1810 GLEN MEADE ROAD 59 71 73
WILMINGTON 28403
CHUN NAM U 919 762-1730

ZACK, PETER GEORGE PD AC
3827 SYLVAN DR. 60 60 73
WILMINGTON 28403
U OF ARKANSAS 919 791-7031

66. NORTHAMPTON COMPONENT SOCIETY

OFFICERS—**President:** J. A. Fleetwood, Jr., M.D., P.O. Box 328, Conway 27820
Secretary: John H. Stanley, M.D., Drawer B, Woodland 27897

OUTLAND, ROBERT BOONE GP L/RT
P. O. BOX 410 32 33 36
RICH SQUARE 27869
U OF PENN 919 539-2755

STEPHENSON, BENNETTE EDWARD GP L/RT
P. O. BOX 348 35 35 37
RICH SQUARE 27869
MED COLL OF VA 919 539-2343

67. ONSLOW COMPONENT SOCIETY

OFFICERS—**President:** Gregory W. Cobb, M.D., 264 Memorial Dr., Jacksonville 28540 (919 353-1030)
Secretary: Charles L. Garrett, M.D., Onslow Memorial Hospital, Jacksonville 28540 (919 353-3498)

ALVARADO, TERESA LOIS OBG AC
200 MEMORIAL DR. 81 83 86
JACKSONVILLE 28540
U OF MONTERREY 919 353-2115

BALLENGER, CLARENCE EUGENE,III N AC
227 MEMORIAL DRIVE. 78 79 82
JACKSONVILLE 28540
MED U OF SC 919 353-3625

BARNES, MAJOR RUSSELL, JR. OBG /FP AC
200 MEMORIAL DR. 48 49 55
JACKSONVILLE 28540
BOWMAN GRAY 919 353-0759

BATCHELLER, EDGAR H., JR. GS /TS AC
P. O. BOX 1000 64 64 71
JACKSONVILLE 28540
U OF VIRGINIA 919 353-2194

BIANCHI, EDGARDO HUGO CD /IM AC
1703 COUNTRY CLUB RD. STE. 202 68 68 80
JACKSONVILLE 28540
U OF ROSARIO 919 455-9600

BUFFONG, ERIC ARNOLD OBG /END AC
1703 COUNTRY CLUB RD.,STE.203 77 79 85
JACKSONVILLE 28540
HOWARD U 919 346-2182

CHUNG, HONG-YILL GP AC
407 CARMEN AVENUE 69 69 79
JACKSONVILLE 28540
KOREA U 919 353-2800

COBB, GREGORY WAYNE OPH AC
264 MEMORIAL DRIVE 73 77 81
JACKSONVILLE 28540
VANDERBILT U 919 353-1030

COLLIGAN, JOSEPH FRANCIS P /CHP AC
192 VILLAGE DRIVE 58 59 84
JACKSONVILLE 28540
LOYOLA U 919 353-4165

CRIST, TAKEY OBG AC
200 MEMORIAL DRIVE 65 65 71
JACKSONVILLE 28540
U OF NC 919 353-2115

CUTHRELL, WILLIAM VANCE OBG /NPM AC
300 S. HAWTHORNE RD. 81 85 78
DIV. MATERNAL-FETAL MED/OBGYN
WINSTON-SALEM 27103
U OF NC

DE-VARONA, JOSE MIGUEL FP /P AC
215 MEMORIAL DRIVE 51 51 75
JACKSONVILLE 28540
U OF HABANA 919 353-5118

DEYTON, JOHN WESLEY, JR. OBG AC
124 MEMORIAL DRIVE 56 56 78
JACKSONVILLE 28540
U OF NC 919 353-7741

DILL, FRANKLIN GEORGE OBG AC
124 MEMORIAL DRIVE 63 67 68
JACKSONVILLE 28540
CORNELL U 919 353-7741

EDWARDS, TIMOTHY FREEMAN OBG AC
245 MEMORIAL DR. 78 78 83
JACKSONVILLE 28540
BOWMAN GRAY 919 353-4333

FOX, RAYMOND MORRIS, JR. GYN /GP AC
P. O. BOX 910 64 65 74
JACKSONVILLE 28541
VANDERBILT U 919 347-2133

GABLE, WALTER DELAY PTH /FOP AC
ONSLOW MEMORIAL HOSPITAL 54 54 74
JACKSONVILLE 28540
U OF MARYLAND 919 353-7803

GALLAGHER, EDGAR GIVENS, JR. GS /TS AC
1013 SCHALL PLACE 65 65 76
JACKSONVILLE 28540
U OF NC 919 353-7848

GARRETT, CHARLES LEROY, JR. PTH/FOP AC
ONSLOW MEMORIAL HOSPITAL 66 66 76
JACKSONVILLE 28540
MED U OF SC 919 353-3498

GEROCK, HENRY FP AC
200 DOCTOR'S DRIVE, SUITE M 63 63 69
JACKSONVILLE 28540
U OF NC 919 353-7600

GOODWIN, MARY BURCH PD AC
12 OFFICE PARK DR. 86 82 87
JACKSONVILLE 28540
LA STATE U 919 353-6262

67. ONSLOW COMPONENT SOCIETY (Continued)

GREGORY, HUGH STANLEY OTO AC
64 64 73
NORTHWOODS PROF. PLZ.
JACKSONVILLE 28540
U OF NC 919 455-4847

GROSS, JEFFREY LOUIS ORS AC
72 72 80
128 MEMORIAL DRIVE
JACKSONVILLE 28540
OHIO STATE U 919 353-4500

HAMMOCK, RONALD MACK U AC
77 79 83
200 DOCTOR'S DR. SUITE C
JACKSONVILLE 28540
U OF MICHIGAN 919 353-9994

HARRIS, MICHAEL ALAN P AC
62 62 84
MOQ 2314
CAMP LEJEUNE 28542
U OF TENNESSEE 919 451-2081

HAYE, HENRY SOLOMON OBG AC
79 80 86
PO BOX 1229
JACKSONVILLE 28541
U OF WEST INDIES 919 346-2182

HEATH, HUNTER IM /AI L/RT
43 47 48
200 DOCTOR'S DRIVE, SUITE I
JACKSONVILLE 28540
MCGILL U 919 353-6327

HOWARD, GEORGE ALBERT, III DR AC
82 86 79
100 PRESTON DR.
JACKSONVILLE 28540
EAST CAROLINA U 919 577-1171

HUDSON, SARAH TILTON WILLCOX PD AC
82 85 85
12 OFFICE PARK DR.
JACKSONVILLE 28540
U OF NC 919 353-6262

ISSA, MAHMOUD A. GE /IM AC
71 71 80
224 MEMORIAL DR. STE. A
JACKSONVILLE 28540
DAMASCUS U 919 577-1444

KAPLAN, JEFFREY MARK R AC
70 71 84
ONSLOW MEMORIAL HOSPITAL
P. O. BOX 1358
JACKSONVILLE 28541
NEW YORK MED COL 919 577-2345

KEARNEY, THOMAS AC
54 55 85
5004 OCEAN DRIVE
EMERALD ISLE 28557
NAT U OF IRELAND

KITCHEN, THOMAS WARD, JR. FP AC
59 59 60
410 NEW BRIDGE ST. APT. 10-A
JACKSONVILLE 28540
BOWMAN GRAY 919 347-1788

KREDEL, ERNST KARL WILHELM OM /PH AC
49 62 85
U.S. NAVAL HOSPITAL
BOX 8, MCB
CAMP LEJEUNE 28542
LANDES U.MUNSTER 919 451-2181

MARTIN, CHARLES R. PD AC
63 63 69
120 MEMORIAL DRIVE
JACKSONVILLE 28540
DUKE 919 353-0581

MAYER, CAREY CHARLES P AC
77 79 85
445 WESTERN BLVD., STE. A
JACKSONVILLE 28540
TEMPLE U 919 347-1920

MEASE, WILLIS EUGENE FP AC
45 48 48
209 S. CHURCH ST.
RICHLANDS 28574
U OF NEBRASKA 919 324-3105

MOORE, THOMAS PHILLIP R AC
55 55 64
ONSLOW MEMORIAL HOSPITAL
JACKSONVILLE 28540
U OF NC 919 577-2274

MUTHER, ELLIS FRANK N /P AC
60 60 70
721 PROFESSIONAL DR.
NEW BERN 28560
TULANE U 919 633-3744

MYERS, CARY JOHN FP AC
73 73 77
PO BOX 5025
JACKSONVILLE 28540
U OF NEBRASKA 919 353-2300

O'NEIL, H. WILLIAM OBG AC
58 85 86
200 MEMORIAL DR.
JACKSONVILLE 28540
DALHOUSIE U 919 353-2115

OLSEN, KENNETH GEORGE AN AC
67 67 74
137 COKE PLACE
JACKSONVILLE 28540
U OF COLORADO 919 455-0188

PATLAK, ERWIN M. P /EM AC
52 53 85
192 VILLAGE DR.
JACKSONVILLE 28540
U OF ILLINOIS 919 577-1400

PIVER, JAMES DECAMP GS /ABS AC
43 44 51
1002 SCHALL PLACE
JACKSONVILLE 28540
U OF PENN 919 353-7848

REICHLING, GEORGE HENRY D AC
57 58 85
300 WESTERN BLVD.
JACKSONVILLE 28540
JEFFERSON 919 577-7288

REICHLING, PIRKKO ESTERI GP AC
70 80 85
300 WESTERN BLVD.
JACKSONVILLE 28540
U OF OULU 919 353-0176

ROGERS, NOEL BRUCE ORS AC
67 69 74
128 MEMORIAL DRIVE
JACKSONVILLE 28540
GEORGETOWN U 919 353-4500

RUBIN, RICHARD BENNETT P AC
66 68 85
ST. MARGARET'S HOSPITAL
P.O. DRAWER 311
MONTGOMERY, AL 36195
U OF ALABAMA

STREETER, GREGORY DEAN FP /DIA AC
80 80 80
200 DOCTOR'S DR. SUITE H
JACKSONVILLE 28540
U OF NC 919 353-0565

TAJ-ELDIN, ADNAN IM /A AC
72 75 78
200 DOCTOR'S DR. STE. I
JACKSONVILLE 28540
DAMASCUS U 919 353-6327

TSE, ALEX YU CHOW PD /A AC
71 74 75
120 MEMORIAL DRIVE
JACKSONVILLE 28540
U OF HONG KONG 919 353-0581

TSE, ANDRE KON SANG CD /IM AC
71 74 77
144 MEMORIAL COURT
JACKSONVILLE 28540
U OF HONG KONG 919 353-5111

TURLINGTON, WADE ROBERT FP AC
69 69 73
200 DOCTOR'S DRIVE, SUITE M
JACKSONVILLE 28540
U OF NC 919 353-8100

VENTERS, WAYNE BURNETTE ORS AC
64 64 73
200 DOCTOR'S DRIVE, SUITE J
JACKSONVILLE 28540
U OF NC 919 353-1412

VERELL, KAREN LEA PD /ADL AC
78 78 84
12 OFFICE PARK DR.
JACKSONVILLE 28540
U OF MISSISSIPPI 919 353-6262

WHITEHURST, WALTER CLAYTON,JR. R AC
68 68 75
201 DEBORAH DRIVE
JACKSONVILLE 28540
U OF NC 919 577-2274

WILLIAMS, PAUL FRANKLIN OBG AC
65 66 74
200 MEMORIAL DRIVE
JACKSONVILLE 28540
U OF LOUISVILLE 919 353-2115

WILSHIRE, LARRY BRENT OPH AC
74 79 84
825 GUM BRANCH RD., STE. 133
JACKSONVILLE 28540
WEST VA U 919 346-2444

WOLANSKI, TERRENCE PHILIP PUD /IM AC
76 76 83
118 MEMORIAL DRIVE
JACKSONVILLE 28540
U OF VIRGINIA 919 353-1811

70. PASQUOTANK-CAMDEN-CURRITUCK-DARE COMPONENT SOCIETY

OFFICERS—**President:** Eugene M. McDaniel, M.D., 1142 N. Road St., Elizabeth City 27909 (919 338-0101)
Secretary: Charles Davidson, M.D., P.O. Box 2557, Kill Devil Hills 27948

BAILEY, CLAUDE FLETCHER OBG AC
45 45 48
1142 N. ROAD STREET
ELIZABETH CITY 27909
U OF MARYLAND 919 338-3914

BARBER, ALFRED JOSEPH IM /HEM AC
76 77 77
1134 N. ROAD STREET
ELIZABETH CITY 27909
GEORGETOWN U 919 338-5183

BEALS, MARTIN FEARING, JR. PD AC
76 76 82
78 MEADS STREET
ELIZABETH CITY 27909
U OF NC 919 338-2155

BOUNOUS, JUDITH FRANCES EM /PD AC
70 70 84
2082 RIVERSHORE ROAD
ELIZABETH CITY 27909
BOWMAN GRAY 919 335-1003

BRANDSPIGEL, KARL NEP /IM AC
75 78 82
104 W. COLONIAL AVE.
ELIZABETH CITY 27909
U OF CALIFORNIA 919 335-1083

BURROUGHS, FRANKLIN DANFORD FP AC
63 63 67
P. O. BOX 248
HATTERAS 27943
U OF NC 919 986-2388

CARMACK, KEITH K.K. FP AC
83 84 87
KITTY HAWK MEDICAL CTR.
SR 338-F
KITTY HAWK 27949
U OF HAWAII 919 261-3848

CLARK, CATHERINE LEAH FP AC
77 78 83
4716 CROATAN HIGHWAY
KITTY HAWK 27949
M C OF WISCONSIN 919 261-3848

COOK, JOHN EDMUND AN AC
78 78 83
PO BOX 96
CAMDEN 27921
M C OF WISCONSIN 919 338-1542

CRUTCHFIELD, WILLIAM M. OTO /PS AC
66 66 73
1134 N. ROAD STREET
ELIZABETH CITY 27909
U OF NC 919 335-2923

CRUTCHLEY, WILLIAM F., JR. GS AC
59 66 67
1134 N. ROAD STREET
ELIZABETH CITY 27909
MED COLL OF VA 919 338-3909

DAVIDSON, CHARLES STEPHEN EM /FP AC
74 76 78
ROUTE #1, BOX 158
KILL DEVIL HILLS 27948
U OF KENTUCKY 919 441-5698

DE LIGIO, JAMES JOSEPH FP /HYP AC
74 86 87
KITTY HAWK MED. CTR.
KITTY HAWK 27949
NEW YORK MED COL 919 261-3848

DENUNZIO, NEIL L. IM AC
82 82 86
PO BOX 9
WINFALL 27985
JEFFERSON 919 426-9172

EADIE, EDWARD B., JR. U AC
67 67 74
1134 N. ROAD STREET
ELIZABETH CITY 27909
U OF VIRGINIA 919 338-4141

FOX, EARL RUSSELL RHU /IM AC
53 54 80
1830 DELAWARE AVE.
CAPE MAY, NJ 08204
MED COLL OF VA 609 884-6391

GILBERT, MICHAEL T. OPH AC
67 68 73
1134 N. ROAD STREET
ELIZABETH CITY 27909
NEW YORK MED COL 919 338-0148

70. PASQUOTANK-CAMDEN-CURRITUCK-DARE COMPONENT SOCIETY (Continued)

GRAHAM, JOHN CALHOUN, JR. DR /NM AC 61 61 70
106 S. WATER ST.
PO BOX 250
ELIZABETH CITY 27909
U OF NC 919 335-2652

HAND, LEROY CORBETT, JR. FP /EM L/RT 50 50 51
ROUTE #1, BOX 490
CAMDEN 27921
BOWMAN GRAY 919 335-0531

HARRELL, WILLIAM FLETCHER, JR. PD AC 43 47 47
1142 N. ROAD ST.
ELIZABETH CITY 27909
U OF VIRGINIA 919 338-2155

HOGGARD, WILLIAM ALDEN, JR. FP AC 44 44 47
PO BOX 726
110 S. POOL ST.
ELIZABETH CITY 27909
BOWMAN GRAY 919 335-0867

HOLTON, WALTER LEGGETT FP AC 73 74 75
NORTH MAIN HIGHWAY
PO BOX 1045
MANTEO 27954
DUKE 919 473-3478

HUNSBERGER, KURT LEE IM AC 69 69 78
1142 N. ROAD STREET
ELIZABETH CITY 27909
NORTHWESTERN U 919 338-4117

JENKINS, SAMUEL GATLIN, JR. GS AC 55 55 63
1142 N. ROAD STREET
ELIZABETH CITY 27909
U OF NC 919 335-4890

KASTNER, ROBERT JEFFREY FP /EM AC 81 82 86
RT. #1, BOX 229
NAGS HEAD 27959
EASTERN VA 919 441-7111

KIZEN, PAUL ANDREW OBG AC 77 78 84
1142 N. ROAD STREET
ELIZABETH CITY 27909
U OF WISCONSIN 919 335-2061

MCDANIEL, EUGENE MARVIN, JR. OBG AC 62 62 82
1142 N. ROAD STREET
ELIZABETH CITY 27909
MED COLL OF VA 919 338-0101

MONCLA, ALFRED MARIE OBG AC 64 64 72
1134 N. ROAD STREET
ELIZABETH CITY 27909
LA STATE U 919 338-2151

OWENS, ZACK DOXEY GS /GYN L/RT 30 30 40
P. O. BOX 422
ELIZABETH CITY 27909
U OF MARYLAND 919 335-4492

PETERS, WILLIAM ANTHONY,JR. GYN AC 43 44 44
P. O. BOX 392
ELIZABETH CITY 27909
DUKE 919 335-2355

PICKREL, JERRY CLINE PTH AC 58 59 63
P. O. DRAWER 403
ELIZABETH CITY 27909
TULANE U 919 335-2258

POWELL, ROBERT NARROWAY IM AC 70 70 75
1142 N. ROAD STREET
ELIZABETH CITY 27909
BOWMAN GRAY 919 338-4117

REDDING, MARSHALL SIMMS OPH AC 66 66 72
1142 N. ROAD ST.
PO BOX 1402
ELIZABETH CITY 27909
DUKE 919 335-5446

ROBERTSON, JOSEPH LETCHER,JR. PTH AC 75 75 80
NORTH ROAD ST.
ELIZABETH CITY 27909
BAYLOR 919 335-2258

ROGERS, RICHARD O., JR. IM AC 52 52 86
BOX 724
FRANKLIN, VA 23851
MED COLL OF VA 919 491-2446

ROMM, WILLIAM HENRY FP L/RT 50 51 52
P. O. BOX 400
MOYOCK 27958
U OF VIRGINIA 919 435-6621

RUSSELL, WILLIAM MICHAEL R /NM AC 69 70 80
P. O. BOX 250
ELIZABETH CITY 27909
NAT U OF IRELAND 919 335-0531

SLEDGE, JOHN BURTON, JR. PH AC 55 55 59
P. O. BOX 610
KILL DEVIL HILLS 27948
DUKE 919 441-6182

SOUTHWORTH, ALVIN JUDSON OBG AC 57 57 82
1134 N. ROAD STREET
ELIZABETH CITY 27909
MED COLL OF VA 919 338-0887

SPAETH, WALTER IM L/RT 43 47 50
1904 RIVERSHORE ROAD
ELIZABETH CITY 27909
DUKE 919 335-7389

THOMAS, WILLIAM RALPH GP AC 49 53 53
RT. #3, BOX 476
ELIZABETH CITY 27909
CASE WESTERN RES 919 338-2480

TOLSON, ROGER JOHN IM AC 57 74 75
1134 N. ROAD STREET
ELIZABETH CITY 27909
U OF LONDON 919 335-2963

WATSON, JAMES MORRIS ORS AC 67 68 74
1134 N. ROAD STREET
ELIZABETH CITY 27909
U OF MICHIGAN 919 338-3993

WILLIAMS, RUSSELL WARREN FP AC 75 78 83
PO BOX 911
KITTY HAWK 27949
DARTMOUTH U 919 261-3848

WITWER, TIMOTHY SLAYTON IM /FP AC 71 71 82
1207 N. ROAD ST.
ELIZABETH CITY 27909
BOSTON U 919 335-4351

WRIGHT, CHARLES NEWBOLD FP AC 41 41 46
PO BOX 328
JARVISBURG 27947
TEMPLE U 919 491-2446

73. PERSON COMPONENT SOCIETY

OFFICERS—**President:** George W. Gentry, M.D., P.O. Box 1038, Roxboro 27573 (919 599-1131)
Secretary: Andrew T. Melero, M.D., P.O. Box 28, Roxboro 27573 (919 599-2953)

BRADSHER, JAMES DONALD GP L/RT 45 45 50
P. O. BOX 168
ROXBORO 27573
BOWMAN GRAY 919 599-1611

ESTOYE, CESAR ROMERO GS /GP AC 63 71 76
601 RIDGE ROAD
ROXBORO 27573
U OF PHILIPPINES 919 599-0202

ESTOYE, TERESITA FERRER OBG /NPM AC 63 71 76
601 RIDGE ROAD
ROXBORO 27573
U OF PHILIPPINES 919 599-0202

FITZGERALD, ROBERT GREESON GP AC 47 47 50
P. O. BOX 856
ROXBORO 27573
U OF MARYLAND 919 599-1131

GATLING, H. BEE PH AC 60 60 64
ROUTE #1, BOX 28
MILTON 27305
BOWMAN GRAY 919 234-8656

LONG, THOMAS DRUMWRIGHT IM AC 52 52 56
P. O. BOX 797
ROXBORO 27573
BOWMAN GRAY 919 599-3212

MELERO, ANDRES TARCISIO GS /TS AC 51 54 59
P. O. BOX 28
ROXBORO 27573
DUKE 919 599-2953

WINSLOW, JAMES ELBERT FP AC 70 70 76
609 PROFESSIONAL DR.
ROXBORO 27573
U OF NC 919 599-9258

74. PITT COMPONENT SOCIETY

OFFICERS—**President:** L. Robert Hanrahan, Jr., M.D., ECU Brody Bldg., 7E 124, Greenville 27834 (919 551-2806)
Secretary: Dennis R. Sinar, M.D., ECU, Dept. of Medicine, Greenville 27834 (919 551-4652)
Executive Secretary: Dianne H. Pickett, P.O. Box 2216, 1705 W. 6th St., Greenville 27834 (919 758-8833)

ADAMS, HARRY GLENN IM /ID AC 68 68 84
DEPT. OF MEDICINE
ECU SCHOOL OF MEDICINE
GREENVILLE 27834
BAYLOR 919 551-2550

ALLISON, E. JACKSON, JR. EM AC 75 75 73
ECU, DEPT. OF EMERG.MED.
GREENVILLE 27834
U OF NC 919 551-4757

ALQAISI, MUNTHER E. ON AC 73 83 86
ECU SCHOOL OF MED.
DEPT.OF RADIATION ONCOLOGY
GREENVILLE 27834
BAGHDAD U 919 551-2900

ALSENTZER, ULRICH KARL PM AC 78 78 85
REGIONAL REHABILITATION CTR.
P. O. BOX 6028
GREENVILLE 27834
U OF TUEBINGEN 919 551-4440

AMES, DAVID ANTHONY P AC 68 69 84
313 LONGMEADOW ROAD
GREENVILLE 27834
MCGILL U 919 752-7151

ARTIS, ISAAC AMOS, JR. IM AC 72 74 82
114 ROANOKE PLACE
P. O. BOX 7304
GREENVILLE 27834
MEHARRY MED COLL 919 756-6986

ATHEY, GEORGE RICHARD IM S 87 00 83
3004 BRIARCLIFF DRIVE
GREENVILLE 27834
EAST CAROLINA U 919 756-8793

ATKINSON, SAMUEL MARVIN, JR. OBG AC 61 61 85
1401 E. FIFTH ST.
GREENVILLE 27858
DUKE 919 551-4669

AUSTIN, ERLE HARRIS, III CDS /TS AC 74 74 86
DIV. OF CARDIAC SURGERY
ECU SCHOOL OF MEDICINE
GREENVILLE 27834
HARVARD 919 551-4822

74. PITT COMPONENT SOCIETY (Continued)

VERY, ELEANOR ELIZABETH S
RT. #2, BOX 305 88 00 85
GREENVILLE 27834
EAST CAROLINA U 919 752-0569

AKER, CHARLES SCOTT, III FP AC
RT. #1, BOX 93 79 81 87
GREENVILLE 27834
DUKE 919 747-2921

AKERMAN, SEYMOUR PTH AC
2902 MEMORIAL DRIVE 59 59 77
GREENVILLE 27834
CASE WESTERN RES 919 551-2801

ANDY, LAWRENCE C. GYN /ON AC
ECU SCHOOL OF MED. 77 81 87
DEPT. OF OB-GYN
GREENVILLE 27834
DUKE 919 551-4201

AREFOOT, JENNIFER ANNE COATS S
2016 ALTA AVE. 88 00 85
LOUISVILLE, KY 40205
U OF LOUISVILLE 919 758-4466

ARNES, VICTOR RUSSELL S
111 N. MEADE ST. 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 758-1547

ARROW, ROY DOUGLAS S
2-J COURTNEY SQUARE 90 00 86
GREENVILLE 27858
EAST CAROLINA U 919 756-3746

ARTLETT, EDWIN CLARY ORS AC
#6 MEDICAL PAVILION 78 79 84
GREENVILLE 27834
U OF NC 919 752-4613

ARTLETT, STEPHEN RUSSELL GS L/RT
208 N. LONGMEADOW ROAD 43 50 50
GREENVILLE 27834
DUKE 919 752-3218

ASKIN, JAYNE FRANCES S
32F ARLINGTON SQUARE 90 00 86
GREENVILLE 27858
EAST CAROLINA U 919 756-5256

ATTS, MARK BURREL S
RT. #8, BOX 269 88 00 86
GREENVILLE 27834
EAST CAROLINA U 919 752-3648

BEAMER, MARK EDWARD S
119 FLETCHER PL. 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 758-2290

BEANE, SCOTT DOUGLAS S
3-I COURTNEY SQUARE APTS. 89 00 85
GREENVILLE 27858
EAST CAROLINA U 919 758-5617

BEEKER, THADDEUS ARLEN S
APT. 16-F, COURTNEY SQUARE 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 737-8170

BENSON, NICHOLAS HEROD EM AC
1309 FANTASIA STREET 80 81 84
GREENVILLE 27858
U OF SOU. DAKOTA 919 551-4297

BENTZEL, CARL JOHAN IM /NEP AC
ECU DEPT. OF RENAL MED. 58 58 85
GREENVILLE 27858
U OF ALABAMA 919 551-2545

BERGER, BRUCE R. CHP /P AC
ECU, DEPT. OF PSY, BRODY BLDG. 77 78 84
GREENVILLE 27858
U OF MINN 919 551-2660

BERRETTA, JEANNE SMITH FP /GER AC
PO BOX 1846 79 80 86
ECU SCHOOL OF MEDICINE
GREENVILLE 27834
U OF ALABAMA 919 551-4611

BEST, ANDREW ARTHUR FP L
P. O. BOX 949 51 53 65
GREENVILLE 27834
MEHARRY MED COLL 919 752-2129

BINION, MARK LEE S
106 SCALES PL., APT. A-7 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 758-9438

BLACKWELL, MICHAEL A. S
114-D RIVER BLUFF RD. 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 758-7303

BODE, DONALD DENBY, JR. OPH AC
2573 STANTONSBURG RD. 74 75 86
GREENVILLE 27834
U OF MIAMI 919 752-0313

BORCHERT, LYNN GORDON GYN AC
2245 STANTONSBURG RD. #A 68 69 80
GREENVILLE 27834
U OF MICHIGAN 919 752-0973

BOST, WILLIAM STUART, JR. OTO AC
8 DOCTOR'S PARK 62 62 70
PO BOX 5007
GREENVILLE 27834
U OF NC 919 752-5227

BOWMAN, CHRIS RICHARDS S
PO BOX 607 89 00 85
AURORA 27806
EAST CAROLINA U 919 758-6437

BOWMAN, JAMES FREDERICK ORS AC
117 MEDICAL DRIVE 61 66 67
GREENVILLE 27834
TEMPLE U 919 758-1777

BOWYER, ALLEN FRANK CD AC
2000 VENTURE TOWER DR.,STE.300 59 60 78
GREENVILLE 27834
LOMA LINDA U 919 551-4651

BOYETTE, DEANNA MARIE S
BOX 1473 88 00 85
GREENVILLE 27835
EAST CAROLINA U 919 758-8785

BRAME, ROBERT GRIFFIN OBG AC
1729 FOREST HILL DR. 55 55 62
GREENVILLE 27858
U OF NC 919 755-8535

BRAMLEY, MICHAEL LAIRD PD AC
1800 W. FIFTH STREET 73 75 77
GREENVILLE 27834
YALE 919 752-7141

BREMER, CHARLES CHRISTOPHER FP AC
317 PINEWOOD ROAD 64 64 68
GREENVILLE 27834
DUKE 919 756-7974

BRIGHT, DON CLARK AN AC
1705 W. SIXTH STREET 71 71 74
GREENVILLE 27834
U OF NC 919 752-2140

BRINKMAN, LINDA EVES S
10 PALMETTO PLACE 87 00 85
GREENVILLE 27834
EAST CAROLINA U 919 355-6121

BROWN, MICHAEL ASHLEY S
114 FLETCHER PLACE 88 00 85
GREENVILLE 27834
EAST CAROLINA U 919 758-3315

BRYANT, LYNETTE S
PO BOX 7069 90 00 86
GREENVILLE 27835
EAST CAROLINA U

BURCHETTE, BRUCE WILSON S
G-6 DOCTOR'S PARK APTS. 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 758-6981

BURKART, THOMAS ELMA NEP AC
6 DOCTOR'S PARK 73 74 79
GREENVILLE 27834
MED U OF SC 919 752-8880

BURKE, WILLIAM ALLEN D AC
502 WINSTEAD RD. 82 83 79
GREENVILLE 27834
EAST CAROLINA U 919 551-2555

BUSHER, JANICE THERESE IM AC
133 ANTLER RD. 79 80 87
GREENVILLE 27834
MED SCH-UMDNJ 919 551-4633

BYRD, VERNON DALE S
1015-B WESTOVER DR. 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 551-1812

BYRUM, GRAHAM VANCE, JR. IM /NEP AC
6 DOCTORS PARK 80 81 79
GREENVILLE 27834
BOWMAN GRAY 919 752-8880

CAIN, JAMES RAVENEL, III NEP AC
ECU 76 77 87
GREENVILLE 27858
MED U OF SC 919 551-2545

CAMNITZ, PAUL SAMUEL OTO AC
BOX 5007 74 74 79
GREENVILLE 27834
U OF NC 919 752-5227

CAMPBELL, DIANE JANE OBG AC
2315 EXECUTIVE PARK CIR. 77 78 86
PO BOX 8307
GREENVILLE 27835
MEHARRY MED COLL 919 830-1035

CAMPBELL, PETER BRUCE ID /IM AC
ECU SCH. OF MEDICINE 68 71 80
GREENVILLE 27834
U OF WASHINGTON 919 551-2550

CARO, JOSE FRANCISCO END /IM AC
ECU, DEPT. OF MEDICINE 73 73 83
GREENVILLE 27834
U OF URUGUAY 919 551-2571

CARSON, JACK OLIVER FP AC
P. O. BOX 549 52 52 54
GRIFTON 28530
U OF MARYLAND 919 524-4463

CARTER, JAMES WALTER TS /GS AC
10 DOCTOR'S PARK 64 64 72
STANTONSBURG ROAD
GREENVILLE 27834
JOHNS HOPKINS 919 758-1747

CASTELLANI, WM. JOHN PTH AC
ECU SCHOOL OF MEDICINE 80 85 87
DEPT. OF CLINICAL PATHOLOGY
GREENVILLE 27834
U OF MICHIGAN 919 757-4928

CAVENDER, CARY PAUL S
202-B SHILOH DR. 87 00 84
GREENVILLE 27834
EAST CAROLINA U 919 355-7327

CHAMBERLAIN, JACK KENNETH HEM /ON AC
ECU, SCHOOL OF MEDICINE 54 55 80
GREENVILLE 27834
U OF ILLINOIS 919 551-2560

CHAMBERLAIN, MATTHEW P. S
136 FOREST ACRES DR. 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 551-3267

CHAPLINSKI, THOMAS JOSEPH ON /HEM AC
1705 W. 6TH ST. 77 78 84
GREENVILLE 27834
U OF CHICAGO 919 752-6101

CHITWOOD, WALTER R., JR. CDS /TS AC
106 JAMESTOWN ROAD 74 83 84
GREENVILLE 27834
U OF VIRGINIA 919 551-4822

CLARKE, DONALD KEITH S
1530-0 BRIDLE CIR. 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 756-2072

CLEMENT, JAMES EDWIN GYN AC
101 BETHESDA DRIVE 54 55 62
GREENVILLE 27834
DUKE 919 758-4181

CLINE, DAVID MARTIN EM AC
1211 RED BANKS RD. 82 83 85
GREENVILLE 27858
WAYNE STATE U 919 551-2954

CLINE, KATHLEEN ANN EM AC
1211 RED BANKS RD. 82 83 85
GREENVILLE 27858
WAYNE STATE U 919 551-4757

COLEMAN, NANCY LOU S
403 HILLTOP ST. 89 00 86
GREENVILLE 27858
EAST CAROLINA U 919 752-3394

CONTOGIANNIS, MARY ANN S
3529 SPICEBUSH TRAIL 87 00 85
GREENSBORO 27410
EAST CAROLINA U 919 756-6143

COOK, BRIAN S
DOCTORS PARK APTS. U-1 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 758-3689

74. PITT COMPONENT SOCIETY (Continued)

COTTEN, AARON R. S
108-B CEDAR COURT 90 00 86
GREENVILLE 27858
EAST CAROLINA U 919 551-0571

CRAWLEY, GEORGE EDWARD, III S
1113 HILLSIDE DR. 88 00 85
GREENVILLE 27834
EAST CAROLINA U 919 830-0748

CRISP, SELLERS LUTHER ORS AC
6 MEDICAL PAVILION 60 60 68
GREENVILLE 27834
U OF NC 919 752-4613

CROSKERY, RICHARD WILLIAM IM AC
1705 W. 6TH ST., BLDG. E 81 83 84
GREENVILLE 27834
OHIO STATE U 919 752-6101

CROUNSE, ROBERT GRIFFITH D AC
RT. #2, BOX 263-T 55 61 83
BLOUNTS CREEK 27814
YALE 919 551-4629

CUNNINGHAM, PAUL RAY GOLDWYN GS AC
ECU, BRODY BLDG., ROOM 4S-10 72 72 83
GREENVILLE 27834
U OF WEST INDIES 919 551-2620

DABBS, DAVID JOSEPH PTH AC
BRODY 1F79, ECU SCH. OF MED. 80 80 84
GREENVILLE 27834
MED COLL OF OHIO 919 551-4495

DAGENHART, TIMOTHY LEE S
322 SPRINGHILL RD. 88 00 85
GREENVILLE 27834
EAST CAROLINA U 919 830-1242

DANOFF, JASCHA WOLSEY CHP /P AC
ECU, DEPT. OF PSYCHIATRY 55 56 82
GREENVILLE 27858
U OF TORONTO 919 551-2660

DAUGHERTY, JANICE ELAINE FP AC
P. O. BOX 339 78 81 82
BETHEL 27812
BOWMAN GRAY 919 551-4614

DAVIDSON, LARRY STEVE S
1183 MULBERRY LN, APT. 30-G 88 00 85
GREENVILLE 27858
EAST CAROLINA U 919 752-7202

DAVIS, GEORGE EDWARD PD AC
8 MEDICAL PAVILION 70 71 79
GREENVILLE 27834
U OF TENNESSEE 919 758-1750

DAWKINS, HOWARD GARRETT, JR. PS /GS AC
2577 STANTONSBURG ROAD 68 68 75
GREENVILLE 27834
BOWMAN GRAY 919 752-1406

DEBOGORSKI, JOZEFA PM AC
PO BOX 6028 75 82 86
GREENVILLE 27834
KRAKOW-POLAND 919 551-4440

DELLASEGA, MARK IM /GE AC
1705 W. SIXTH ST. 75 76 83
GREENVILLE 27834
U OF KANSAS 919 752-6101

DEVIRGILIIS, JUAN CARLOS FP AC
PO BOX 709 82 84 86
FARMVILLE 27828
U OF LA PLATA 919 753-7181

DEWITT, DONALD EVERETT FP AC
321 PINEWOOD DR. 54 55 87
GREENVILLE 27834
WAYNE STATE U 919 757-4614

DEYTON, ROBERT GUY, JR. OBG AC
101 BETHESDA DRIVE 55 55 64
GREENVILLE 27834
DUKE 919 758-4181

DIAMOND, JOHN MICHAEL P /CHP AC
ECU, DEPT. OF PSYCHIATRY 79 80 84
GREENVILLE 27858
HOWARD U 919 551-2673

DIECKMANN, MERWIN R. FP AC
P. O. BOX 1846 54 55 83
GREENVILLE 27834
U OF IOWA 919 756-4611

DILLARD, THOMAS ARTHUR IM /PUD AC
ECU SCHOOL OF MED. 78 81 87
DEPT. OF MEDICINE
GREENVILLE 27834
U OF NC 919 551-4653

DIXON, JOHN ELLIOTT FP
P. O. BOX 427 58 58 64
AYDEN 28513
DUKE 919 746-3116

DOUGLAS, EDGAR SMITH, JR. OBG AC
101 BETHESDA DRIVE 61 64 68
GREENVILLE 27834
MED COLL OF VA 919 758-4181

DRIVER, ALBERT GARDNER, JR. PUD /IM AC
ECU, DEPT. OF MEDICINE 78 80 84
GREENVILLE 27834
PENN STATE U 919 551-4653

DUCKETT, CHARLES HOWARD FP AC
ECU SCHOOL OF MEDICINE 57 57 58
GREENVILLE 27834
BOWMAN GRAY 919 551-4614

DUKES, ROBERT RAYMOND S
1301-A DICKINSON AVE. 89 00 86
GREENVILLE 27834
EAST CAROLINA U 919 756-9928

EBERT, JAMES B., JR. S
#4 CARRIAGE HOUSE 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 756-5093

EDWARDS, WILSON BARTON, JR. S
111 N. MEADE STREET 89 00 84
GREENVILLE 27834
EAST CAROLINA U 919 758-1547

EISELE, JOHN EVANS PD /PM AC
PO BOX 6028 65 67 87
GREENVILLE 27834
U OF WISCONSIN 919 551-4440

ENGELKE, STEPHEN CARL PD /NPM AC
220 PINEVIEW DRIVE 74 79 82
GREENVILLE 27834
JOHNS HOPKINS 919 551-4665

EVANS, AMOS RAY P AC
1705 W. SIXTH STREET, BLDG. H 62 62 66
GREENVILLE 27834
U OF NC 919 758-4810

EVANS, JAMES HARVEY S
E-6 DOCTOR'S PARK 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 758-2577

EVATT, W. CHRISTOPHER S
A-Z UNIVERSITY MEDICAL PK. 89 00 86
GREENVILLE 27834
EAST CAROLINA U 919 758-2059

FAGUNDUS, DUNCAN MCLEOD S
410-B STUDENT ST. 88 00 85
GREENVILLE 27834
EAST CAROLINA U 919 752-3014

FEARRINGTON, ERIC CD /IM AC
2 MEDICAL PAVILION 57 57 64
GREENVILLE 27834
U OF NC 919 752-3185

FERGUSON, ALFRED LEA NEP /IM AC
6 DOCTOR'S PARK 61 61 70
GREENVILLE 27834
U OF TENNESSEE 919 752-8880

FINLEY, JAMES LEO PTH AC
BRODY 1F79, ECU SCH. OF MED. 78 83 84
GREENVILLE 27834
MED COLL OF PENN 919 551-4495

FLEMING, DUARD FRANCIS, JR. N AC
425 STANTONSBURG ROAD 72 73 79
GREENVILLE 27834
BOWMAN GRAY 919 752-4848

FLICKINGER, EDWARD GARNER GS AC
305 GRANVILLE DRIVE 73 75 82
GREENVILLE 27834
DUKE 919 551-4629

FOIL, MARY BETH GS AC
PO BOX 87422 81 81 81
SAN DIEGO, CA 92870
EAST CAROLINA U

FORDE, RICHARD JAMES P AC
PO BOX 8428 77 77 87
GREENVILLE 27835
YALE 919 551-2661

FORE, WILLIAM WHATELY END /IM AC
ECU SCHOOL OF MEDICINE 60 60 67
GREENVILLE 27858
DUKE 919 551-2571

FOREMAN, SUSAN DOWNER PD AC
505 BREMERTON DR. 78 78 8
GREENVILLE 27834
U OF NC 919 752-71

FOWLER, WILLIAM EDWARD
106 SCALES PL. B-1 89 00 8
GREENVILLE 27834 919 758-290

FRANKLIN, ROBERT CHARLES FP AC
500 CEDARHURST 80 81 8
GREENVILLE 27834
BOWMAN GRAY 919 752-713

FREEDMAN, MICHAEL VY S
110 FARMHOUSE PLACE 89 00 8
GREENVILLE 27834
EAST CAROLINA U 919 756-039

FREEL, PAUL DUANE S
404 HILLCREST DRIVE 89 00 8
GREENVILLE 27834
EAST CAROLINA U 919 355-780

FREEMAN, SANDRA S
411 E. FOURTH ST. 90 00 8
GREENVILLE 27834
EAST CAROLINA U 919 752-433

FULCHER, WILLIAM L., III FP AC
PO BOX 657 82 83 8
SNOW HILL 28580
U OF NC 919 747-292

FURR, SARA MARCELLA S
2521 MEMORIAL DR. 90 00 8
GREENVILLE 27834
EAST CAROLINA U 919 756-959

GALLOWAY, JAMES MADISON, JR. FP AC
PO BOX 427 74 74 7
AYDEN 28513
BOWMAN GRAY 919 746-311

GAMBLE, ELIZABETH RHODES IM /GER AC
607 WINSTEAD RD. 77 80 8
GREENVILLE 27834
U OF NC 919 756-790

GANICK, DOROTHY J. PD /PHO AC
ECU SCHOOL OF MEDICINE 71 71 8
PCMH W288-PEDIATRICS
GREENVILLE 27834
U OF WISCONSIN 919 757-467

GAVIGAN, JAMES RICHARD U AC
2 DOCTOR'S PARK 67 68 7
GREENVILLE 27834
U OF KENTUCKY 919 752-507

GAYLORD, GREGG M. DR AC
115 CARDINAL DR. 81 84 8
GREENVILLE 27858
U OF CINCINNATI 919 752-500

GIBLIN, JOHN MARTIN S
F-2 DOCTOR'S PARK APTS. 89 00 86
GREENVILLE 27834
EAST CAROLINA U 919 752-861

GILBERT, CHARLES FRANKLIN PTH AC
PITT CO. MEM. HOSP.-LAB. MED. 59 59 6
GREENVILLE 27834
U OF NC 919 551-449

GLENN, SHELLEY FAYE S
RT. #1, BOX 69-F 89 00 85
WINTERVILLE 28590
EAST CAROLINA U

GOWEN, CLARENCE WM.,JR. PD /NPM AC
ECU SCHOOL OF MEDICINE 79 81 8
GREENVILLE 27834
MED COLL OF VA 919 551-481

GOWEN, MARILYN ALLEY PD /PDA AC
ECU, DEPT. OF PEDIATRICS 79 80 8
GREENVILLE 27858
MED COLL OF VA 919 551-477

GRANT, TERRY ALAN S
2905-A CEDAR CREEK RD. 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 758-682

GRAY, CHARMAINE D. PD AC
PO BOX 238 83 85 87
HOOKERTOWN 28538
U OF NC 919 747-281

GRAY, ROBERTA SKINNER PNP AC
ECU DEPT. OF PEDIATRICS 72 72 84
GREENVILLE 27834
U OF NC 919 551-496

74. PITT COMPONENT SOCIETY (Continued)

REASON, FRANCES CRAWFORD S
106 SCALES PL. M-2 90 00 86
GREENVILLE 27834
EAST CAROLINA U

REGORY, GLADYS REGINA S
L-13 DOCTORS PARK APTS. 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 758-5954

REGORY, JERRY GLEN P AC
ECU, DEPT. OF PSYCHIATRY 69 69 83
GREENVILLE 27858
U OF OKLAHOMA 919 551-2660

RIFFIN, STEPHANIE D. S
RT. 1, BOX 260 90 00 86
MACCLESFIELD 27852
EAST CAROLINA U 919 827-5567

RIGGS, JAMES PHILIP, JR. S
P. O. BOX 172 89 00 85
WINTERVILLE 28590
EAST CAROLINA U 919 756-9608

ROLNICK, CAROL ANN S
2007-B E. 4TH ST. 87 00 85
GREENVILLE 27834
EAST CAROLINA U 919 758-5227

UTAI, JAMES PAUL PDE /PD AC
3901 BEAUBIEN BLVD. 70 71 83
CHILDRENS HOSP. OF MICHIGAN
DETROIT, MI 48201
TEMPLE U 313 745-5531

YVES, JOHN WILLIAM IM /ON AC
ECU DEPT. OF MEDICINE 77 77 86
BRODY BLDG. MOYE BLVD.
GREENVILLE 27834
M C OF WISCONSIN 919 551-2554

HAAR, FREDERICK BEHREND PD L
610 S. OAK STREET 32 32 35
GREENVILLE 27834
JEFFERSON 919 752-2039

HAGA, EDWARD WAYNE S
804 FORBES ST. 88 00 85
GREENVILLE 27834
EAST CAROLINA U 919 752-5190

HAINER, BARRY LEWIS FP AC
602 QUEEN ANNE'S ROAD 76 77 86
GREENVILLE 27834
GEORGETOWN U 919 551-4164

HALE, JOHN CHARLES GS /CDS AC
10 DOCTOR'S PARK 70 70 77
GREENVILLE 27834
WAYNE STATE U 919 758-1747

HALL, BRENT DWAYNE S
DOCTOR'S PARK APTS, #P-7 88 00 85
GREENVILLE 27834
EAST CAROLINA U 919 752-7222

HAMILTON, GENE THOMAS ORS AC
6 MEDICAL PAVILION 67 68 74
GREENVILLE 27834
NORTHWESTERN U 919 752-4613

HANRAHAN, LEO ROBERT, JR. PTH /BLB AC
ECU SCHOOL OF MEDICINE 72 77 78
DEPT. OF PATHOLOGY
GREENVILLE 27834
SYRACUSE 919 551-2806

HARDY, IRA MAY, II NS AC
125 MOYE BOULEVARD 63 63 68
GREENVILLE 27834
U OF NC 919 752-5156

HARDY, JOHN GREGG N AC
425 STANTONSBURG ROAD 73 73 78
GREENVILLE 27834
BOWMAN GRAY 919 752-4848

HARRIS, LAWRENCE STANLEY FOP /NA AC
ECU SCHOOL OF MEDICINE 62 62 78
BRODY BLDG. 1S08
GREENVILLE 27858
CASE WESTERN RES 919 551-4655

HATCH, ALLAN BRAZIEL S
127 AVERY ST. APT. #3 89 00 86
GREENVILLE 27834
EAST CAROLINA U

HAVEN, ANDREW EDDY OBG AC
2245 STANTONSBURG RD.,STE.H 78 80 83
GREENVILLE 27834
U OF NC 919 782-1273

HEATH, STACEY MAURICE S
202-A LINDBETH DR. 88 00 85
GREENVILLE 27834
EAST CAROLINA U 919 355-2402

HEIZER, MORTIMER DANTZLER FP AC
701 N. MAIN STREET 61 64 65
FARMVILLE 27828
MED COLL OF VA 919 753-3193

HENDERSON, CATHY LYNN S
3027 PARK VILLAGE APT. 7-13 90 00 86
ADAMS BLVD.
GREENVILLE 27834
EAST CAROLINA U 919 758-4094

HENDRIX, JOHN DAVID D AC
1705 W. SIXTH STREET 67 68 73
GREENVILLE 27834
U OF FLORIDA 919 752-4124

HENGEVELD, LOFTUS, JR. EM /AN RT
107 IRON WOOD DRIVE 47 48 77
GREENVILLE 27834
HAHNEMANN 919 756-2047

HENSON, DONALD LENTZ, JR. S
24 SCOTT ST. 88 00 85
GREENVILLE 27834
EAST CAROLINA U 919 756-7639

HINSON, TONY RAY S
RT. #1, BOX 434 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 758-5643

HODGES, JOSEPH AL, JR. S
1108 E. 10TH ST., APT. 3-H 89 00 85
GREENVILLE 27858
EAST CAROLINA U 919 758-7626

HOLBROOK, CARTER TATE, III PHO /PD AC
ECU, DEPT. OF PEDIATRICS 75 75 80
GREENVILLE 27834
U OF NC 919 551-4676

HOLLAND, JAMES EUGENE OPH AC
2573 STANTONSBURG ROAD 75 75 81
GREENVILLE 27834
U OF MISSOURI 919 752-0313

HOLTER, JOHN FREDERICK IM /PUD AC
HIGHWAY 64 WEST 79 80 85
P. O. BOX 310
BETHEL 27812
PENN STATE U 919 551-4653

HUDSON, RICHARD PAGE, JR. FOP /PTH AC
ECU SCHOOL OF MEDICINE 56 68 68
DEPT. OF CLINICAL PATHOLOGY
GREENVILLE 27834
MED COLL OF VA 919 551-4655

HUGHES, JAMES LEWIS PD AC
PITT CO. MEM. HOSP. 228-2W 55 55 82
GREENVILLE 27834
U OF MARYLAND 919 355-2460

IMBODEN, LEY INEZ S
217 E. WOODSTOCK DR. 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 756-8735

IRONS, CARY FREDERICK, JR. FP L/RT
1104 W. ROCK SPRING ROAD 41 46 46
GREENVILLE 27834
MED COLL OF VA 919 752-3423

IRONS, MALENE GRANT PD /GPM L/RT
1104 W. ROCKSPRING 41 46 46
GREENVILLE 27834
MED COLL OF VA 919 752-3423

IRONS, THOMAS GRANT PD AC
ECU DEPT. OF PEDIATRICS 72 72 82
GREENVILLE 27834
U OF NC 919 551-2535

JAFFURS, WILLIAM J., JR. EM AC
PO BOX 610 79 79 86
GRIMESLAND 27837
GEO WASHINGTON U 919 551-4757

JAMES, ROBERT MITCHELL S
2704 JEFFERSON DR. 87 00 85
GREENVILLE 27834
EAST CAROLINA U 919 752-2254

JANOSKO, EDWARD ORESTES, II U /N/A AC
224 KING GEORGE ROAD 74 75 80
GREENVILLE 27834
YALE 919 752-5077

JOHNSON, SAMUEL ANDREW S
APT. #4, CARRIAGE HOUSE 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 934-2161

JOHNSON, THOMAS DUANE S
DOCTORS PARK APTS. U-4 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 758-4458

JOHNSRUDE, IRWIN STANLEY DR AC
P. O. BOX 328, RTE. #9 56 66 66
GREENVILLE 27834
U OF MANITOBA 919 756-9280

JOHNSTONE, WILLIAM MILLER, JR. S
1608 BEAUMONT DR. 89 00 85
GREENVILLE 27858
EAST CAROLINA U 919 758-7213

JONES, BILLY ERNEST D AC
ECU DEPT. OF MEDICINE 58 58 67
GREENVILLE 27834
DUKE 919 551-2555

JONES, CHRISTOPHER S
408 ROTARY AVE. 89 00 85
GREENVILLE 27858
EAST CAROLINA U 919 752-5110

JONES, DAVID RAY S
1046 E. ROCK SPRING RD. 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 758-0812

JONES, DENNIS EBLEN DARNELL OBG AC
ECU SCHOOL OF MEDICINE 68 68 78
GREENVILLE 27858
DUKE 919 551-4610

JONES, FRANKLIN D. NS AC
125 MOYE BLVD. 77 81 86
GREENVILLE 27834
EASTERN VA 919 551-5156

JONES, JAMES GRADY FP AC
P. O. BOX 1846 59 59 61
GREENVILLE 27835
BOWMAN GRAY 919 551-2600

JORDAN, CHARLES DANIEL FP L
PO BOX 652 48 50 50
BETHEL 27812
MED COLL OF VA 919 551-6841

KALLMAN, HAROLD FP /GER AC
ECU DEPT.OF FAMILY MEDICINE 54 55 82
GREENVILLE 27834
NEW YORK U 919 551-2597

KANNON, GEORGIA ANN S
114-A HUNTING RIDGE RD. 89 00 86
GREENVILLE 27834
EAST CAROLINA U 919 758-2940

KATARIA, SUDESH PD AC
ECU DEPT. OF PEDIATRICS 65 73 80
GREENVILLE 27834
LADY HARDINGE 919 551-2535

KATARIA, YASH PAL PUD /IM AC
ECU DEPT. OF MEDICINE 59 60 79
GREENVILLE 27834
M C OF AMRITSAR 919 551-4653

KATZ, EDWARD KENNETH P /PYM AC
ECU SCHOOL OF MEDICINE 74 75 86
GREENVILLE 27858
TUFTS U 919 551-2663

KENDRICK, PAUL WAYNE NEP /IM AC
6 DOCTORS PARK 66 72 75
STANTONSBURG ROAD
GREENVILLE 27834
U OF ALABAMA 919 752-8880

KENNY, JEAN BRYCE FELTY PD /ID AC
ECU DEPT. OF PEDIATRICS 57 57 83
GREENVILLE 27858
JOHNS HOPKINS 919 551-2511

KERR, COLIN PAUL FP /LM AC
ECU SCHOOL OF MEDICINE 77 77 87
PO BOX 1846
GREENVILLE 27835
U OF PENN 919 551-4611

KINARD, JAMES DONALD S
33 WEST HILLS TOWNHOMES 88 00 85
GREENVILLE 27834
EAST CAROLINA U 919 852-6384

74. PITT COMPONENT SOCIETY (Continued)

KNOTT, RUFUS HENRY, II OTO /A AC
100 WILLIAMSBURG DRIVE 64 64 72
GREENVILLE 27834
U OF NC 919 752-5227

KNUPP, CHARLES LEONARD HEM /IM AC
ECU SCHOOL OF MEDICINE 76 77 84
DEPT. OF MEDICINE
GREENVILLE 27834
U OF MARYLAND 919 551-2560

KODROFF, MICHAEL BARRY PDR /NM AC
ECU DEPT. OF RADIOLOGY 67 67 85
GREENVILLE 27834
JEFFERSON 919 551-4972

KOONTZ, JACK ALEXANDER OM AC
E. I. DUPONT DENEMOURS CO. 64 64 69
P. O. BOX 800
KINSTON 28501
U OF NC 919 522-6100

KOPELMAN, ARTHUR NPM AC
ECU SCHOOL OF MEDICINE 63 63 79
GREENVILLE 27834
U OF ROCHESTER 919 551-4787

KURTZ, KEVIN JOHN S
2903-D CEDAR CREEK DR. 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 551-1653

KUSHNICK, THEODORE PD AC
ECU SCHOOL OF MEDICINE 51 53 80
GREENVILLE 27834
HARVARD 919 551-2529

LA VIGNE, MARK KINO S
DOCTOR'S PARK APTS J-2 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 758-1822

LANE, CHARLES JENKINS S
2905-H CEDAR CREEK RD. 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 758-2884

LANNIN, DONALD ROWE GS AC
ECU, DEPT. OF SURGERY 74 76 83
GREENVILLE 27858
U OF MINN 919 551-9931

LARKIN, ERNEST WADDILL, III PTH AC
ECU SCH.OF MED.BRODY 1F79 70 71 78
GREENVILLE 27834
MED COLL OF VA 919 551-4495

LARSON, RICHARD MARTIN GS /CDS AC
10 DOCTORS PARK 74 76 82
STANTONSBURG ROAD
GREENVILLE 27834
DUKE 919 758-1747

LAUPUS, WILLIAM EDWARD PD /PNP AC
ECU SCH. OF MED. DEAN'S OFF. 45 45 76
GREENVILLE 27834
YALE 919 551-2201

LEE, MARTHA HOPE S
APT R-7, DOCTORS PARK 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 578-3190

LEE, MITCHELL D. S
611 E. 11TH ST., APT. E 90 00 86
GREENVILLE 27858
EAST CAROLINA U 919 551-0532

LENNON, BARBARA M. S
44 COLINDALE COURT 89 00 85
GREENVILLE 27858
EAST CAROLINA U 919 756-2646

LENNON, YATES ALTON S
44 COLINDALE COURT 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 648-4158

LEONARD, JOHN RICHARD, III NS AC
125 MOYE BOULEVARD 70 70 76
GREENVILLE 27834
U OF NC 919 752-5156

LEONARD, MARILYN JEAN S
#18 GLENWOOD APTS. 89 00 85
GREENVILLE 27858
EAST CAROLINA U 919 758-0713

LEONHARDT, GARY GENE S
304 S. JARVIS ST. 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 758-0978

LEVINE, GARY IRA FP AC
BOX 1846 76 77 81
GREENVILLE 27834
WAYNE STATE U 919 551-4611

LEWIS, LARRY STEWART GS AC
DEPT. OF SURGERY 77 80 83
ECU SCHOOL OF MEDICINE
GREENVILLE 27834
WAYNE STATE U 919 551-4629

LICHSTEIN, PETER RIBACK IM AC
ECU DEPT. OF MEDICINE 76 78 82
GREENVILLE 27834
U OF MICHIGAN 919 551-4633

LJUNG, TOR MARTIN S
PO BOX 788 90 00 86
WINTERVILLE 28590
EAST CAROLINA U 919 355-6674

LONDON, DEBORAH LOUISE S
508 CIRCLE DR. 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 752-0109

LONGINO, FRANK HENRY GS /TS RT
1914 FOREST HILL DR. 47 51 56
GREENVILLE 27834
DUKE 919 758-1747

MACDONALD, MARK EDWARD S
107 DUPONT CIRCLE 89 00 85
GREENVILLE 27858
EAST CAROLINA U 919 756-6502

MACKENNA, JARLATH OBG /NPM AC
ECU, DEPT. OF OBG 69 73 79
GREENVILLE 27834
NAT U OF IRELAND 919 551-4693

MADAKASIRA, SUDHAKAR P AC
ECU, DEPT. OF PSYCHIATRY 75 75 82
GREENVILLE 27858
S V MEDICAL COLL 919 551-2663

MAHAFFEY, WILLIAM M. S
E-8 DOCTORS PARK APTS. 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 758-6102

MALLETTE, JULIUS Q. OBG AC
ECU DEPT. OF OB-GYN 82 83 87
GREENVILLE 27835
EAST CAROLINA U 919 551-4983

MARCUARD, STEFANO P. GE /IM AC
ECU, DEPT. OF MEDICINE 77 79 84
GREENVILLE 27834
U OF ZURICH 919 551-4652

MARKELLO, JAMES ROSS PD AC
ECU SCHOOL OF MEDICINE 61 62 78
GREENVILLE NC 27834
ST U OF NY-BUFF 919 551-2539

MARROW, HENRY GREGORY PTH AC
ECU SCH. OF MEDICINE 78 80 83
CLINICAL PATH. BRODY 1508
GREENVILLE 27834
DUKE 919 551-4495

MASIUS, WILLIAM GLENN S
1801 GREENVILLE BLVD. APT. 19 90 00 86
GREENVILLE 27858
EAST CAROLINA U 919 752-5867

MASSAGEE, JAMES TERRILL AN AC
PHYSICIANS QUADRANGLE,BLDG. 7 82 83 86
GREENVILLE 27834
U OF NC 919 752-2140

MASSENGILL, SUSAN FOSTER S
2405-1 HORTON BLVD. 87 87 86
WILSON 27893
EAST CAROLINA U 919 291-6550

MATHIS, JAMES LARRY P AC
ECU, DEPT. OF PSYCHIATRY 49 49 77
GREENVILLE 27858
ST LOUIS U 919 551-2660

MAY, ALFRED T., III S
25-G COURTNEY SQUARE 90 00 86
GREENVILLE 27858
EAST CAROLINA U 919 355-5287

MAYO, KATHY DIANE S
T-5 DOCTORS PARK APTS. 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 752-2656

MCCONNELL, ROBERT WILLIAM R /NM AC
1711 W. SIXTH STREET 59 59 6
GREENVILLE 27834
MED COLL OF VA 919 752-500

MCDONALD, PENELOPE JANE S
P-3 DOCTOR'S PARK APTS. 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 752-755

MCGILLICUDDY, DENIS MICHAEL ORS AC
117 MEDICAL DRIVE 75 77 8
GREENVILLE 27834
U OF MICHIGAN 919 758-177

MCLEAN, HARRY H., III FP /EM AC
ECU STUDENT HEALTH SERVICE 53 53 5
GREENVILLE 27834
WASHINGTON U 919 551-684

MEECE, JEANNINE MARIE PD AC
1800 W. FIFTH ST., STE. #8 81 82 8
GREENVILLE 27834
U OF SOU FLORIDA 919 758-175

MEGA, LESLY TAMARIN CHP /P AC
ECU, DEPT. OF PSYCHIATRY 68 70 8
GREENVILLE 27858
BOSTON U 919 551-267

MELTON, BARRY CLINE S
1095-K CHEYENNE COURT 88 00 85
GREENVILLE 27834
EAST CAROLINA U 919 756-2917

MERRILL, RICHARD HOSMER NEP /IM AC
ECU SCHOOL OF MEDICINE 66 67 8
GREENVILLE 27834
BOSTON U 919 551-2545

METZGER, W. JAMES IM /AI AC
ECU, DEPT. OF MEDICINE 71 71 85
GREENVILLE 27834
NORTHWESTERN U 919 551-2562

MEWBORN, QUENTIN ALEXANDER, JR FP AC
P. O. BOX 1966 69 69 73
GREENVILLE 27834
U OF NC 919 752-7133

MILLER, DAVID T. CLP AC
PITT CO. MEMORIAL HOSPITAL 75 75 87
DEPT. OF CLINICAL PATHOLOGY
GREENVILLE 27834
BOWMAN GRAY 919 551-9020

MINARD, RAYMOND BRUCE AN AC
322 DUPONT CIRCLE 81 84 78
GREENVILLE 27834
EAST CAROLINA U 919 756-9168

MINTEER, WILLIAM JEFFREY CD /IM AC
#8 PALMETTO PLACE 78 81 84
GREENVILLE 27858
U OF PENN 919 752-6101

MITCHELL, CHARLES K., JR. S
1400 HOOKER RD., APT. E 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 756-9098

MITCHELL, JOYCE MARIE EM /IM AC
RT. #1, BOX 416E 76 79 82
BETHEL 27812
GEORGETOWN U 919 551-4757

MONROE, CHARLES T. PD /PH AC
1825 W. SIXTH ST. 80 81 87
GREENVILLE 27834
U OF NC 919 752-4141

MONROE, EDWIN WALL IM AC
ECU SCHOOL OF MEDICINE 51 51 57
GREENVILLE 27834
U OF PENN 919 551-4606

MONROE, WILLIAM MURCHISON OPH AC
DOCTORS PK, STE. I 64 64 70
STANTONSBURG ROAD
GREENVILLE 27834
U OF NC 919 758-4166

MONTGOMERY, EMMETT FULCHER S
804 FORBES ST. 89 00 86
GREENVILLE 27834
EAST CAROLINA U 919 752-1490

MOORE, BARRY ALLEN P AC
600 MEDICAL DRIVE 70 70 79
GREENVILLE 27834
U OF KANSAS 919 758-6080

74. PITT COMPONENT SOCIETY (Continued)

ORE, CAROL ANN S
10 S. CONTENTNEA ST., APT. C 88 00 85
ARMVILLE 27828
AST CAROLINA U 919 753-2015

VAHED, ASSAD CD AC
ECTION OF CARDIOLOGY 75 75 87
CU SCHOOL OF MEDICINE
REENVILLE 27858
HWAZ MED SCH 919 551-4651

RAD, JOSEPH LOUIS OBG AC
730 W. FIFTH STREET, EXT. 57 57 66
REENVILLE 27834
OF NC 919 758-4855

SHOLD,JAMES REUBEN BLACKBURN S
10 N. EASTERN ST. 87 00 86
REENVILLE 27834
AST CAROLINA U 919 758-1793

LSON, PHILIP GROESBECK P L
EDICAL PAVILION, SUITE #9 54 57 59
REENVILLE 27834
OF LOUVAIN 919 758-3145

WMAN, WALTER JOSEPH NEP AC
DOCTOR'S PARK 75 78 82
REENVILLE 27834
UKE 919 752-8880

WTON, DOUGLAS FRISBIE GE /IM AC
705 W. SIXTH STREET 68 72 75
REENVILLE 27834
YRACUSE 919 752-6101

FONG, LESLIE WILEY S
310 HIDDEN BRANCHES CLOSE 90 00 86
INTERVILLE 28590
AST CAROLINA U 919 355-7477

RRIS, H. THOMAS PTH AC
PITT COUNTY MEM. HOSPITAL 59 60 83
REENVILLE 27834
U OF SOU CALIF 919 551-4951

JTT, SUZANNE HAMILTON S
717 SNOW HILL ST. 89 00 85
AYDEN 28513
AST CAROLINA U 919 746-4695

BRIEN, THOMAS FRANCIS, JR. GE /IM AC
ECU SCHOOL OF MEDICINE 57 61 61
GREENVILLE 27834
YALE 919 551-4652

NEAL, EVA MANN S
1924 WHITE HOLLOW DR. 90 00 86
GREENVILLE 27858
EAST CAROLINA U 919 756-9049

RR, LYNN HUIE, JR. CD /IM AC
ECU DEPT. OF MEDICINE 74 70 80
GREENVILLE 27834
BOWMAN GRAY 919 551-4651

STMAN, DAVID LEE OBG AC
DOCTOR'S PK., BLDG 5 82 83 86
GREENVILLE 27834
WAYNE STATE U 919 758-5246

APPAS, PAMELA ANNE P AC
DEPT. OF PSY. 79 83 85
ECU SCH. OF MEDICINE
GREENVILLE 27858
BOWMAN GRAY 919 551-2404

ARK, H. KIM PTH AC
ECU, DEPT. OF CLINICAL PATH. 69 75 77
GREENVILLE 27834
EWHA WOMANS U 919 551-4495

ARKS, WILLIAM B., III S
205-B LINDBETH DR. 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 355-5744

ARSONS, RICKEY S
1612 OAKLAWN AVE. 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 756-5478

ATE, DORIS CATHERINE S
MEDICAL OAKS APTS. #C-2 91 00 86
GREENVILLE 27834
EAST CAROLINA U 919 757-3513

ATEL, JAYESH KANCHANLAL S
109 STEWARD LANE 87 00 85
GREENVILLE 27834
EAST CAROLINA U 919 756-8948

PATEL, VIJESH K. S
109 STEWARD LANE 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 756-8948

PATRONE, NICHOLAS ANGELO RHU /IM AC
ECU DEPT. OF MED.& PED. 76 76 77
GREENVILLE 27834
LOYOLA U 919 551-2533

PATTERSON, F. M. SIMMONS GS L/RT
4503 MORGAN LANE 39 39 47
NEW BERN 28560
U OF PENN 919 633-3492

PATTERSON, THOMAS HENRY, JR. FP AC
701 N. MAIN STREET 54 55 58
FARMVILLE 27828
U OF NC 919 753-3193

PATTON, DENZIL D. FP AC
ECU SCHOOL OF MED. 72 72 87
PO BOX 1846
GREENVILLE 27835
WEST VA U 919 551-4614

PEARCE, RICHARD EDWARD S
202-B LINDBETH DR. 88 00 85
GREENVILLE 27834
EAST CAROLINA U 919 756-8447

PEDEN, JAMES GWYN, JR. IM /P AC
DEPT. OF MEDICINE 79 80 84
ECU SCHOOL OF MEDICINE
GREENVILLE 27834
U OF NC 919 551-4633

PHIPPS, ERVIN LAMAR S
1500 WILLOW ST. APT. #3 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 551-3379

PIPPIN, RICHARD LEE IM AC
201 N. MAIN ST. 83 00 80
FARMVILLE 27828
EAST CAROLINA U 919 756-9569

PORIES, WALTER JULIUS GS /TS AC
203 CHOWAN ROAD 55 56 78
GREENVILLE 27834
U OF ROCHESTER 919 551-4629

POWERS, BARRY DR AC
306 STANWOOD DRIVE 75 77 81
GREENVILLE 27834
NEW YORK MED COL 919 752-5000

PRICE, BILLY LEE, JR. S
C-6 SHERATON VILLAGE 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 756-5425

PRIVETTE, DOUGLAS CRAIG CD /IM AC
222 KING GEORGE ROAD 76 76 82
GREENVILLE 27834
U OF NC 919 752-6101

PULKINGHAM, NATHAN CARR S
28 LEXINGTON SQ. APTS 88 00 85
GREENVILLE 27834
EAST CAROLINA U 919 756-4752

PURCELL, PETER NELSON S
APT. Q-2, DOCTORS PARK 88 00 84
GREENVILLE 27834
EAST CAROLINA U 919 551-3023

PURCELL, VALERIE D. S
I-11 DOCTORS PARK APTS. 88 00 85
GREENVILLE 27834
EAST CAROLINA U 919 752-0581

RAAB, MARY JERISTA ON /HEM AC
ECU SCHOOL OF MEDICINE 68 68 78
GREENVILLE 27834
MED COLL OF PENN 919 551-2383

RAAB, SPENCER O. ON /HEM AC
ECU SCHOOL OF MEDICINE 54 57 78
GREENVILLE 27834
ST U OF NY-BUFF 919 551-2383

RAKFAL, SUSAN MAFFEY TR AC
ECU SCHOOL OF MED. 81 82 86
RADIATION ONCOLOGY CTR.
GREENVILLE 27835
RUTGERS MED SCH 919 551-2900

RAMSDELL, CHARLES MICHAEL RHU /IM AC
1705 W. SIXTH STREET 65 65 76
GREENVILLE 27834
LA STATE U 919 752-6101

RAND, CECIL HOLMES, JR. IM /PUD AC
1800 W. FIFTH STREET 61 61 69
GREENVILLE 27834
U OF NC 919 752-3185

RAWL, RICHARD PRESTON FP AC
P. O. BOX 339 78 80 82
BETHEL 27812
BOWMAN GRAY 919 825-0355

RAY, V. GAIL EM AC
DEPT. OF EMERGENCY MED. 77 77 86
ECU SCHOOL OF MEDICINE
GREENVILLE 27834
U OF ARKANSAS 919 551-4757

RECKER, SCOTT F. PM AC
PO BOX 6028 80 81 87
REGIONAL REHABILITATION CTR.
GREENVILLE 27834
HAHNEMANN 919 551-4440

REEVES, WM. CHARLES CD AC
ECU SCHOOL OF MEDICINE 71 71 87
SECTION OF CARDIOLOGY
GREENVILLE 27858
U OF TEXAS 919 757-4651

ROBB, JEFFREY WALLACE AN AC
PHYSICIANS QUADRANGLE 80 80 86
PITT CO. ANESTHESIA
GREENVILLE 27834
WAYNE STATE U 919 752-2140

ROSE, JOHN DAVID CD /IM AC
1800 W. 5TH ST., #2 72 73 78
GREENVILLE 27834
U OF PENN 919 752-3185

ROUNDS, JOHN CARSON S
104 CHESTERFIELD CT., #26 88 00 85
GREENVILLE 27834
EAST CAROLINA U 919 355-7427

RUCKER, WILLIAM L. GS AC
10 DOCTOR'S PARK 80 81 83
GREENVILLE 27834
MED U OF SC 919 758-1747

RUMLEY, RICHARD LEE IM /ID AC
DEPT. OF MEDICINE 78 79 84
ECU SCHOOL OF MEDICINE
GREENVILLE 27834
U OF NC 919 551-2550

SALDANHA, RITA LOUIS NPM /PD AC
213 WOODHAVEN ROAD 73 73 82
GREENVILLE 27834
B J MED COLLEGE 919 551-4684

SALLE, GEORGE FREDERIC U L
1703 W. SIXTH STREET 33 33 46
GREENVILLE 27834
MED COLL OF VA 919 752-2507

SANCHEZ, RAFAEL CAMILO FP /ADL AC
P. O. BOX 1846 50 50 85
GREENVILLE 27835
LA STATE U 919 551-2608

SATTERFIELD, G. HOWARD, JR. OBG AC
DOCTOR'S PARK, BUILDING #5 57 57 63
GREENVILLE 27834
DUKE 919 758-5246

SCARANTINO, CHARLES WALTER TR AC
RADIATION ONCOLOGY CTR. 73 74 82
ECU SCHOOL OF MEDICINE
GREENVILLE 27834
BOWMAN GRAY 919 551-2900

SEHGAL, NARINDER NATH OBG AC
ECU DEPT. OF OB-GYN 54 61 85
GREENVILLE 27858
M C OF AMRITSAR 919 551-4622

SEHGAL, PRAGNA NINA FP AC
ECU DEPT. OF FAMILY MED. 67 77 87
PO BOX 1846
GREENVILLE 27835
GANDHI MED. COLL 919 551-2059

SEITTER, DELLMER B., III S
201 PINERIDGE DR. 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 551-3384

SESSOMS, RODNEY KEVIN S
1016-B WESTOVER DRIVE 88 00 85
GREENVILLE 27834
EAST CAROLINA U 919 830-1453

74. PITT COMPONENT SOCIETY (Continued)

SHAPPLEY, BEN GORDON PD AC
1800 W. FIFTH STREET 66 66 74
GREENVILLE 27834
U OF VIRGINIA 919 752-7141

SHAW, ROBERT ARNETT PUD /IM AC
1705 W. SIXTH STREET 76 77 82
GREENVILLE 27834
DUKE 919 752-6101

SHUPING, JOHN ROSS N AC
425 STANTONSBURG ROAD 76 76 73
GREENVILLE 27834
BOWMAN GRAY 919 752-4848

SILVERMAN, JAN FRANKLIN PTH AC
BRODY, 1F79, ECU SCH. OF MED 70 70 84
GREENVILLE 27834
MED COLL OF VA 919 551-4495

SIMMONS, EVERETT CASEY P AC
ECU, DEPT. OF PSYCHIATRY 71 72 82
GREENVILLE 27858
U OF TENNESSEE 919 551-2660

SINAR, DENNIS ROBERT GE /IM AC
ECU-DEPT. OF GE 73 73 82
GREENVILLE 27834
OHIO STATE U 919 551-4652

SLATER, PATRICK W., II S
ROUTE #1, BOX 379 90 00 86
PRINCETON 27569
EAST CAROLINA U 919 965-2864

SMERASKI, PHILIP JOHN P AC
ECU SCH. MED-DEPT. OF PSY. 81 83 85
BRODY 4E98
GREENVILLE 27858
MED COLL OF PENN 919 551-2660

SMITH, CAMERON LANGLEY D AC
1705 W. SIXTH STREET 71 71 78
GREENVILLE 27834
U OF NC 919 752-4124

SMITH, JAMES DAVID S
P-2 DOCTORS PARK 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 758-7116

SMITH, JAMES JEFCOAT GP RT
1903 BROOK ROAD 44 44 48
GREENVILLE 27834
U OF TENNESSEE 919 756-3905

SMITH, MICHAEL EARL S
ROUTE #2, BOX 93 88 00 85
WINTERVILLE 28590
EAST CAROLINA U 919 756-3960

SOBOL, TODD LOWELL S
919-A BOSCASTLE CT. 87 00 84
COLUMBUS, OHIO 43214
EAST CAROLINA U 919 752-7202

SONG, JULIET KIM AN AC
PHYSICIAN'S QUADRANGLE 65 65 72
GREENVILLE 27834
EWHA WOMANS U 919 752-1433

SPENCER, GEORGE MICHAEL S
3000 GOLDEN RD., CONDO #7 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 758-5617

SPICER, SAMUEL SHERMAN EM /FP AC
EMERGENCY DEPT. 39 77 82
NEW HANOVER MEM. HOSPITAL
WILMINGTON 28401
UNIV. OF S.C.

STANLEY, FRANKIE EDWARD S
2410-B E. THIRD ST. 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 752-6172

STARLING, SUZANNE P. S
RT. 14, BOX 47-A 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 758-0928

STEEL, JOHN GRIFFITH N AC
425 STANTONSBURG ROAD 77 79 85
GREENVILLE 27834
U OF NC 919 752-4848

STEVENS, JAMES ROMER S
3100 S. MANCHESTER #321 87 00 85
FALLS CHURCH, VA 22044
EAST CAROLINA U 703 671-9348

STEWART, ANGELA GRACE PD AC
225 PEARL DRIVE 80 81 84
GREENVILLE 27834
RUSH MED COLL 919 355-3773

STOCKS, ROSE MARY SUTTON S
406-B S. HARDING ST. 88 00 85
GREENVILLE 27834
EAST CAROLINA U 919 758-3686

STRAUSBAUCH, PAUL HENRY PTH AC
1717 MORNINGSIDE PLACE 74 78 79
GREENVILLE 27834
U OF MIAMI 919 551-2809

SUNDER, THEODORE RALPH CHN /N AC
ECU DEPT. OF PEDIATRICS 72 62 85
GREENVILLE 27834
JEFFERSON 919 551-4772

SUPIK, LAWRENCE FRANCIS S
207 N. JARVIS ST. 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 752-7289

SWING, DONALD CRAVER, JR. S
213 STAFFORDSHIRE DR. 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 756-6912

TAFT, RICHARD CHESSON OBG AC
101 BETHESDA DRIVE 72 72 77
GREENVILLE 27834
U OF NC 919 758-4181

TAYLOR, ALLEN R AC
1711 W. 6TH ST. 47 52 54
GREENVILLE 27834
DUKE 919 752-5000

TAYLOR, JERRY JURGEN S
2402-B E. THIRD ST. 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 562-5174

TEACHEY, HERMAN MCKINLEY S
404 LAUREL ST. 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 758-4139

THIELE, RONALD LEWIS PD /PH AC
503 QUEEN ANNE'S ROAD 48 49 73
GREENVILLE 27858
WAYNE STATE U 919 756-6721

THOMAS, FRANCIS THORNTON TS /GS AC
ECU DEPT. OF SURGERY 64 67 81
GREENVILLE 27834
U OF MINN 919 551-2620

THOMAS, MILLARD BRADY, III S
11-B STRATFORD ARMS 88 00 85
GREENVILLE 27834
EAST CAROLINA U 919 756-2373

THOMAS, ROGER EDMUND FP AC
DEPT. OF FAMILY MEDICINE 77 78 84
ECU SCHOOL OF MEDICINE
GREENVILLE 27834
MCMASTER U 919 551-2603

THOMAS, ROSEMARY ANN CD /IM AC
2000 VENTURE TOWER DR. 76 77 83
GREENVILLE 27834
U OF VIRGINIA 919 551-4651

TIMMONS, PHILLIP ZACHARY S
2402-B E. THIRD ST. 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 488-8162

TIMMONS, ROBERT LANSING NS AC
125 MOYE BOULEVARD 53 58 59
GREENVILLE 27834
HARVARD 919 752-5156

TINGELSTAD, JON BUNDE PD /PDC AC
ECU, DEPT. OF PEDIATRICS 60 61 76
GREENVILLE 27834
HARVARD 919 551-2540

TOLSON, TIMOTHY ALEXANDER S
200 W. 8TH ST., APT. 5-D 90 00 86
GREENVILLE 27858
EAST CAROLINA U 919 752-2099

TRANT, CHARLES AMON, JR. S
106 SCALES PL., A-8 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 830-1244

TREADWELL, EDWARD LOUIS RHU /IM AC
ECU, DEPT. OF MEDICINE 75 76 83
GREENVILLE 27834
DUKE 919 551-2533

TREVATHAN, G. EARL, JR. PD A
ECU, AMBULOTORY PED. SECT. 51 54
GREENVILLE 27834
U OF COLORADO 919 551-25

TROUGHT, WILLIAM STANLEY DR A
19 BAYWOOD DRIVE 68 69
WINTERVILLE 28590
TUFTS U 919 752-50

TUCKER, DONALD HUGH IM /CD A
1705 W. SIXTH STREET 58 58
GREENVILLE 27834
DUKE 919 752-61

TURNER, ROBERT COY IM A
ECU, DEPT. OF MEDICINE 76 76
GREENVILLE 27858
U OF ILLINOIS 919 551-46

VAUGHN, RICHARD SIDNEY FP A
P. O. BOX 1966 74 74
GREENVILLE 27834
BOSTON U 919 752-71

VERNON, MICHAEL STEPHEN FP A
PO BOX 1846 79 81
GREENVILLE 27834
BOWMAN GRAY 919 551-46

VICK, JOHN BERNARD TS /GS A
#10 DOCTOR'S PARK 57 57
GREENVILLE 27834
BOWMAN GRAY 919 758-17

VOLKMAN, ALVIN PTH A
ECU, BRODY 7E, 124 51 52
GREENVILLE 27834
ST U OF NY-BUFF 919 551-28

WAIVERS, LEO EDWARD IM A
ECU SCHOOL OF MEDICINE 80 81
DEPT. OF MEDICINE
GREENVILLE 27834
MED SCH-UMDNJ 919 551-46

WALKER, WILLIAM RAY P A
3109 GORDON DRIVE 68 68
GREENVILLE NC 27858
MED COLL OF VA 919 551-266

WALSH, EMMETT JAMES, JR. U A
2 DOCTOR'S PARK 60 60
GREENVILLE 27834
ST LOUIS U 919 752-507

WARD, JOSEPH MAJOR FP /GER A
121 W. POWER STREET 47 49
AYDEN 28513
DUKE 919 746-319

WARSHAUER, ALBERT DAVID AN R
1608 E. FIFTH STREET 47 47
GREENVILLE 27858
WASHINGTON U 919 752-529

WAUGH, WILLIAM HOWARD NEP /IM A
ECU SCHOOL OF MEDICINE 48 48
GREENVILLE 27834
TUFTS U 919 551-277

WEAVER, MICHAEL DAVID DR A
1711 W. SIXTH STREET 71 71
GREENVILLE 27834
U OF TENNESSEE 919 756-792

WEBB, DUANE DAVID IM /GE A
300 CLUB PINES DR. 74 75
GREENVILLE 27834
U OF NY-ST BROOK

WEISNER, LARRY FELIX S
#12 COUNTRY MANOR APTS. 88 00 84
GREENVILLE 27834
EAST CAROLINA U 919 758-927

WELCH, JACK H. AN A
PHYSICIANS QUADRANGLE 63 63
GREENVILLE 27834
U OF NC 919 752-214

WEN, DENNIS Y. S
DOCTORS PARK APTS. L-13 90 00 86
GREENVILLE 27834
EAST CAROLINA U 919 758-595

WEST, ROBERT LEE PTH A
ECU SCHOOL OF MEDICINE 59 59
GREENVILLE 27834
U OF NC 919 551-449

WHITE, RANDAL EARL RHU A
407 CEDARHURST RD. 80 80
GREENVILLE 27834
WEST VA U 919 752-6101

74. PITT COMPONENT SOCIETY (Continued)

ITE, STEVEN MERLE OPH AC
01 BOWMAN GRAY DR. 59 63 68
REENVILLE 27834
ED U OF SC 919 758-5800

:KER, JOSEPH BEAMAN AN AC
HYSICIANS QUAD.,BLDG. F 78 81 84
REENVILLE 27834
OF TENNESSEE 919 752-2140

GS, WILLIAM J., JR. S
01 PINERIDGE DR. 90 00 86
REENVILLE 27834
AST CAROLINA U

.HELMSEN, BRUCE ORS AC
17 MEDICAL DRIVE 79 79 85
REENVILLE 27834
UKE 919 758-1777

.KERSON, JACK WINFIELD FP AC
. O. BOX 1966 53 53 56
REENVILLE 27834
ICGILL U 919 752-7133

LE, CARL RICHARD OPH AC
OCTOR'S PK, BLDG. 1 68 69 75
REENVILLE N C 27834
OF ROCHESTER 919 758-4166

.LIAMS, JOHN MARK CDS AC
CU SCHOOL OF MED. 76 85 86
EPT. OF SURGERY
REENVILLE 27858
UKE 919 551-4822

WILLIAMS, MARTIN KEITH S
F-6 DOCTORS PARK APTS. 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 752-8619

WILLIAMS, RANDOLPH MEADE ORS AC
117 MEDICAL DRIVE 71 71 79
GREENVILLE 27834
U OF VIRGINIA 919 758-1777

WILLIAMSON, JOSEPH EDWARD EM /FP AC
PITT MEMORIAL HOSPITAL 73 73 77
GREENVILLE 27834
U OF NC 919 753-2628

WILLIS, STEPHEN EDGAR FP AC
1748 BEAUMONT DR. 81 82 84
GREENVILLE 27834
U OF VIRGINIA 919 551-4611

WILLSON, CHARLES FREDERICK PD AC
1800 W. FIFTH ST. 74 76 81
GREENVILLE 27834
U OF VIRGINIA 919 752-7141

WIMMER, JOHN EASTER, JR. NPM AC
ECU SCHOOL OF MEDICINE 71 74 82
GREENVILLE 27834
MED COLL OF VA 919 551-4787

WINSTEAD, JOHN LINDSAY, JR. GS AC
SUITE #1, MEDICAL PAVILION 58 58 67
1800 W. FIFTH ST.
GREENVILLE 27834
U OF NC 919 752-2159

WOOTEN, JOHN LEMUEL ORS AC
6 MEDICAL PAVILION 47 54 55
GREENVILLE 27834
DUKE 919 752-4613

WOOTEN, STEPHEN LAMONT AC
#6 MEDICAL PAVILION 81 00 80
GREENVILLE 27834
DUKE 919 752-4613

WRIGHT, DEBRA J. OBG AC
ECU SCHOOL OF MEDICINE 81 81 87
DEPT. OF OB-GYN
GREENVILLE 27834
U OF NEBRASKA 919 757-4191

YONGUE, ALFRED HARRIS P AC
MEDICAL PAVILION, SUITE #9 59 59 66
GREENVILLE 27834
DUKE 919 758-3145

YONGUE, JUDITH S. P /FP AC
107-C COMMERCE ST. 62 59 78
GREENVILLE 27834
U OF NC 919 355-2768

YOUNG, CHARLES RICHARD S
102 DAVID DR., F-2 89 00 85
GREENVILLE 27834
EAST CAROLINA U 919 752-2918

YOUNG, GARRET PINKNEY S
711 WASHINGTON AVE. 89 00 85
AYDEN 28513
EAST CAROLINA U 919 830-1915

75. POLK COMPONENT SOCIETY

FICERS—**President:** Thomas Perraut, M.D., 212 Hospital Dr., Columbus 28722 (704 894-3037)
Secretary: Robert H. Dowdeswell, M.D., St. Luke's Hospital, Columbus 28722 (704 697-6781)

OMELEY, CHARLES PERRY FP AC
O BOX 608 65 66 67
OLUMBUS 28722
OWARD U 704 894-8213

LLING, THOMAS VANCE GS AC
08 HOSPITAL DR. 74 75 86
OLUMBUS 28722
OMA LINDA U 704 894-3566

YER, GEORGE NORMAN P AC
13 CAROLINA DRIVE 46 46 50
RYON 28782
OWMAN GRAY 704 433-2503

YS, NATASHA THOMASOVNA PD AC
OUTE #3, BOX 315 BB 81 84 85
OREST CITY 28043
J OF MINN 704 894-3303

JAYNES, GRACE S. GP L/RT
PO BOX 1095 30 30 49
FAIRFIELD, TX 75840
MED COLL OF PENN 214 389-5662

PAGTER, AMOS TOWNSEND, JR. IM AC
107 WILDERNESS ROAD 55 61 61
TRYON 28782
DUKE 704 859-6697

PALMER, ROBERT MARION FP AC
P. O. BOX 1159 55 56 56
TRYON 28782
MED U OF SC 704 894-3306

PERRAUT, THOMAS CHRISTOPHER OPH AC
212 HOSPITAL DRIVE 78 79 84
COLUMBUS 28722
U OF LOUISVILLE 704 894-3037

ROZEMA, THEODORE CARL GPM AC
220 HUNTING COUNTRY ROAD 60 61 84
TRYON 28782
NORTHWESTERN U 803 457-4141

WOODY, JOHN W. AUSTIN FP L/RT
900 LYNN ROAD 37 39 40
TRYON 28782
U OF PENN 704 859-9483

YURKO, ANTHONY ANDREW GS RT
ROUTE #1, BOX 440 33 34 72
TRYON 28782
MED COLL OF VA 704 859-5133

76. RANDOLPH COMPONENT SOCIETY

FFICERS—**President:** Robert B. Scott, M.D., 132-A W. Miller St., Asheboro 27203 (919 625-1360)
Secretary: G. S. Walha, M.D., 542 White Oak St., Asheboro 27203 (919 629-4171)

AMS, HARVEY GYN AC
230 FOUST STREET 55 55 62
SHEBORO 27203
J OF NC 919 625-6128

NSWORTH, KERRY H. OBG AC
800 BACK CREEK CT. 62 62 87
SHEBORO 27203
NORTHWESTERN U 919 626-2184

TTS, CHARLES SAMUEL IM AC
220-A FOUST STREET 67 67 73
SHEBORO 27203
J OF VIRGINIA 919 629-7710

RNETTE, HOWARD OLSEN GP RT
108 N. COBLE STREET 47 48 49
RANDLEMAN 27317
MED COLL OF VA 919 498-2500

TLER, ROBERT HOYT GE AC
132 W. MILLER STREET 73 83 83
SHEBORO 27203
BOWMAN GRAY 919 625-3218

LBERWAL, DALJIT SINGH U AC
P. O. BOX 1509 70 68 77
SHEBORO 27203
NILRATAN COLL 919 625-3997

CAMERON, JOHN DARROCH FP AC
132-A W. MILLER ST. 79 80 85
ASHEBORO 27203
U OF NC 919 625-1360

CANNON, EUGENE BOLIVIA PD L/RT
366 LEXINGTON ROAD 37 37 41
ASHEBORO 27203
VANDERBILT U 919 625-2460

DALTON, BENNIE BOOKER GP L/RT
606 WAYNICK, BOX 8101 32 33 35
WRIGHTSVILLE BEACH 28480
DUKE 919 256-5956

DAVIS, GEORGE THOMAS OBG AC
230 FOUST STREET 62 62 66
ASHEBORO 27203
U OF NC 919 625-6128

DHATT, MALKIAT SINGH CD /IM AC
P. O. BOX 2028 68 74 79
ASHEBORO 27203
M C OF AMRITSAR 919 629-4176

EDMONDSON, FRANK, JR. FP L/RT
P. O. BOX 2628 37 37 39
ASHEBORO 27203
TEMPLE U 919 625-3230

FITZPATRICK, JOHN FRANCIS PTH /IM RT
RANDOLPH PATHOLOGY 43 64 64
P. O. BOX 1948
ASHEBORO 27203
HAHNEMANN 919 629-3282

GLASCO, THOMAS ROBERT GP AC
114 N. FAYETTEVILLE STREET 58 67 68
LIBERTY 27298
U OF VIRGINIA 919 622-2277

GOBEL, WILLIAM KENNETH FP AC
P. O. BOX 1886 52 52 54
ASHEBORO 27203
BOWMAN GRAY 919 672-0090

GRAHAM, FREDERICK WILLIAM, JR. FP AC
375 SUNSET AVE. 55 56 59
ASHEBORO 27203
DUKE 919 625-4215

GRIFFIN, MARION WILSON GS /TS AC
205 E. ACADEMY ST. 62 62 69
ASHEBORO 27203
U OF NC 919 625-6188

76. RANDOLPH COMPONENT SOCIETY (Continued)

GROSECLOSE, JAMES DAVID — GP AC
124 COMMERCE SQUARE — 55 55 56
RANDLEMAN 27317
U OF NC — 919 498-2505

HAAK, EDWARD DECKER, JR. — IM /CD AC
208 FOUST ST. — 68 68 85
P. O. BOX 2839
ASHEBORO 27203
U OF VIRGINIA — 919 625-4020

HANSPAL, PRITHVI PAL SINGH — U AC
171 MCARTHUR STREET — 65 77 81
P. O. BOX 1509
ASHEBORO 27203
SAROJNI NAIDU U — 919 625-3997

HENDRICKS, WILLIAM MONROE — D /A AC
407 S. COX ST. — 74 77 79
ASHEBORO 27203
MED COLL OF VA — 919 625-8410

JAMISON, EDGAR LAMONT — OPH /OTO L/RT
1243 IDLEWOOD RD. — 33 34 64
ASHEBORO 27203
U OF PITTSBURGH — 919 625-6315

JOYNER, GEORGE WILLIAM — GS L/RT
375 LEXINGTON ROAD — 32 37 38
ASHEBORO 27203
DUKE — 919 625-6465

KINLAW, JAMES BRADY, JR. — FP AC
132-A W. MILLER STREET — 74 75 78
ASHEBORO 27203
U OF VIRGINIA — 919 625-1360

KLOSTERMYER, BROOKS VAN SLYKE — DR AC
113 CEDAR CREEK DR. — 54 59 81
ASHEBORO 27203
HAHNEMANN — 919 629-0774

LIMBER, GERALD KECK — PTH AC
1867 BACKCREEK COURT — 67 63 80
ASHEBORO 27203
U OF PITTSBURGH — 919 625-5151

LURIA, ALAN STUART — OPH AC
220 FOUST ST. — 73 81 87
ASHEBORO 27204
GEO WASHINGTON U — 919 629-1451

OWEN, CHARLES FLETCHER, JR. — R L
P. O. BOX 146 — 37 37 40
ASHEBORO 27203
U OF PENN — 919 625-5151

QUERY, LUKE WALTER, JR. — IM L/RT
132 W. MILLER STREET — 41 41 49
ASHEBORO 27203
MED COLL OF VA — 919 625-3218

SCOTT, ROBERT BAIRD — FP AC
132-A W. MILLER STREET — 79 81 84
ASHEBORO 27203
EASTERN VA — 919 625-1360

SHACKELFORD, ERNEST D.,JR. — DR /NM AC
P. O. BOX 427 — 52 53 55
ASHEBORO 27204
MED COLL OF VA — 919 629-0774

SIMPSON, JOHN LARRY — FP AC
132-A W. MILLER STREET — 73 73 73
ASHEBORO 27203
BOWMAN GRAY — 919 625-1360

SINGH, RANBIR — ORS A
542 WHITE OAK STREET — 63 76
ASHEBORO 27203
M C OF PUNJAB U — 919 629-41

STOUT, CHARLES WALTER — FP A
1533 N. FAYETTEVILLE STREET — 58 58
ASHEBORO 27203
U OF NC — 919 672-04

TEAGUE, RANDALL SCOTT — DR /EM A
837 OAKMONT DRIVE — 74 74
ASHEBORO 27203
BOWMAN GRAY — 919 625-51

THORNTON, WILLIAM COOPER, JR. — IM A
132 W. MILLER STREET — 71 72
ASHEBORO 27203
MED U OF SC — 919 625-32

WALHA, GURMUKH SINGH — ORS /HS A
542 WHITE OAK STREET — 68 73
ASHEBORO 27203
M C OF AMRITSAR — 919 629-41

WILLIFORD, ROBERT EARL — FP A
208 FOUST STREET — 55 55
ASHEBORO 27203
EMORY U — 919 625-40

ZYLANOFF, PHILLIPA LOUISE — AN A
523 UWHARRIE ST. — 72 73
ASHEBORO 27204
MED COLL OF PENN — 919 625-51

77. RICHMOND COMPONENT SOCIETY

OFFICERS—**President:** Masoud Ahdieh, M.D., 302 Hylan Ave., Hamlet 28345 (919 997-7180)
Secretary: Charles D. Collins, M.D., 1431 Cumberland Circle, Rockingham 28379 (919 895-6301)

AHDIEH, MASOUD — PD AC
302 HYLAN AVENUE — 72 80 80
HAMLET 28345
TABRIZ U — 919 997-7180

ASKARY, NASSER AGHA — OBG /END AC
PO BOX 1715 — 66 73 74
ROCKINGHAM 28379
AHWAZ MED SCH — 919 997-3151

CLONINGER, GILES LATHERN, JR. — FP AC
115 MAIN STREET — 54 54 58
HAMLET 28345
BOWMAN GRAY — 919 582-1319

COLLINS, CHARLES DAVID — GS AC
PO BOX 1385 — 74 76 84
ROCKINGHAM 28379
U OF NC — 919 895-6301

EL-DROUBI, HAZEM — U AC
1219 ROCKINGHAM ROAD — 69 77 79
ROCKINGHAM 28379
EIN SHAMS U — 919 997-5054

FLANNERY, JOHN EDWARD — IM AC
53 MAIN STREET — 80 80 84
HAMLET 28345
U OF TEXAS — 919 582-0004

GARRISON, RALPH BERNARD — FP L/RT
P. O. BOX 1169 — 33 33 35
HAMLET 28345
U OF MARYLAND — 919 582-2140

HAJISHEIKH, MOOSA — CD /IM AC
P. O. BOX 1537 — 59 60 73
ROCKINGHAM 28379
U OF TEHRAN — 919 997-3177

HALL, DANIEL CRAWFORD — FP AC
809 LONG DRIVE — 76 76 80
ROCKINGHAM 28379
BOWMAN GRAY — 919 895-9075

HENNIGAN, MICHAEL ARTHUR — IM AC
53 MAIN ST. — 82 83 86
HAMLET 28345
U OF SOU ALA — 919 582-0004

HOWELL, EDGAR VASTON, JR. — ORS AC
400 E. WASHINGTON ST. — 56 56 82
PO BOX 1148
ROCKINGHAM 28379
MED COLL OF GA — 919 997-4570

KHOSHNEVIS, PARVIZ — OBG AC
PO BOX 1715 — 66 73 84
ROCKINGHAM 28379
U OF SHIRAZ — 919 997-3151

MCQUEEN, FRED DOUGLAS, JR. — FP AC
P. O. DRAWER 1257 — 73 74 78
HAMLET 28345
HOWARD U — 919 895-3138

QUEEN, HUGH OSCAR — FP AS
315 CHARLOTTE STREET — 52 54 55
HAMLET 28345
MED COLL OF GA — 919 582-3241

RANKIN, PRESSLEY ROBINSON, JR. — FP AC
P. O. BOX 40 — 47 48 50
ELLERBE 28338
BOWMAN GRAY — 919 652-3321

ROSS, THOMAS EDGAR — FP A
P. O. BOX 1827 — 59 60
ROCKINGHAM 28379
U OF TENNESSEE — 919 895-52

SCOTT, LEGRAND THURMAN, JR. — FP A
1102 CAROLINA DRIVE — 63 67
ROCKINGHAM 28379
MED U OF SC — 919 895-99

STEVENSON, JOHN SAMUEL — R /NM A
926 BIGGS BOULEVARD — 67 67
ROCKINGHAM 28379
BOWMAN GRAY — 919 997-25

TRAPASSO, ROBERT LOUIS — PTH A
P. O. BOX 1928 — 76 78
ROCKINGHAM 28379
SYRACUSE — 919 997-25

VETTER, JOHN STANLEY — FP A
P. O. BOX 308 — 54 56
ROCKINGHAM 28379
DUKE — 919 895-90

WELLS, DAVID MORELLE — DR A
802 CUMBERLAND CIRCLE — 67 67
ROCKINGHAM 28379
U OF MISSISSIPPI — 919 997-63

WHITE, PHILIP FLETCHER — GP
P. O. BOX 1827 — 42 48
ROCKINGHAM 28379
HAHNEMANN — 919 895-52

78. ROBESON COMPONENT SOCIETY

OFFICERS—**President:** John C. Rozier, M.D., 4300 Fayetteville Rd., Lumberton 28358 (919 738-9601)
Secretary: E. Bert Knight, III, M.D., 395 W. 27th St., Lumberton 28358 (919 738-7551)

ADAMS, WILLIAM CHAMBLISS — PD AC
103 W. 27TH ST. — 78 80 82
LUMBERTON 28358
MED COLL OF VA — 919 739-3318

ALEXANDER, JOSEPH BLACK — IM AC
395 W. 27TH STREET — 47 48 50
LUMBERTON 28358
BOWMAN GRAY — 919 739-7551

ANDREWS, BOB BARCUS — PTH AC
P. O. BOX 847 — 51 57 5
LUMBERTON 28359
U OF KANSAS — 919 738-644

78. ROBESON COMPONENT SOCIETY (Continued)

BAILEY, JOHN RICHARD OPH AC
62 69 70
205 W. 29TH STREET
LUMBERTON 28358
MED U OF SC 919 738-4856

BAKER, HORACE MITCHELL,JR. GS AC
44 44 48
P. O. BOX 1171
LUMBERTON 28358
DUKE 919 738-8571

BEASLEY, CHARLES RONALD IM /PUD AC
80 82 78
206 W. 27TH STREET
LUMBERTON 28358
DUKE 919 738-1421

BERNE, FREEMAN ALBERT DR AC
64 64 70
P. O. DRAWER 1527
LUMBERTON 28358
DUKE 919 738-8222

BIGGS, JOHN IRVIN ORS L/RT
33 37 38
1406 N. ELM ST.
PO BOX 1004
LUMBERTON 28358
NORTHWESTERN U 919 739-6093

BRADFORD, ARTHUR LOUIS FP AC
74 74 76
123 E. BROAD STREET
ST. PAULS 28384
HOWARD U 919 865-5170

BRITT, SAMUEL EMERSON, II GS AC
80 80 79
295 W. 27TH ST.
LUMBERTON 28358
BOWMAN GRAY 919 738-8556

BROOKS, MARTIN LUTHER GP AC
57 58 80
711 HIGHWAY E.
P. O. BOX 37
PEMBROKE 28372
U OF MICHIGAN 919 521-4221

BROOKS, MICHAEL LEE IM AC
79 80 78
206 W. 27TH ST.
LUMBERTON 28358
BOWMAN GRAY 919 738-1421

BROWN, ERNEST HYDE, JR. OBG AC
57 57 63
4300 FAYETTEVILLE ROAD
LUMBERTON 28358
U OF NC 919 738-9601

BURKE, ANNETTE BLACKMON PD AC
78 79 83
4117 VANN DRIVE
LUMBERTON 28358
BOWMAN GRAY 919 739-0243

BURKE, JOSEPH ANTHONY R AC
64 66 83
4117 VANN DRIVE
LUMBERTON 28358
GEORGETOWN U 919 276-2121

BURLESON, WILLIAM ROWELL U AC
64 64 71
101 WEST 27TH STREET
LUMBERTON 28358
U OF NC 919 738-7166

CLARK, DOUGLAS HENDON GS AC
45 45 52
295 WEST 27TH STREET
LUMBERTON 28358
U OF PENN 919 738-8556

CROOM, ROBERT DEVANE, JR. GP L/RT
34 34 37
501 MCCASKILL AVE.
MAXTON 28364
MED COLL OF VA 919 844-3160

DEVINE, GERARD MICHAEL IM AC
73 73 77
395 WEST 27TH STREET
LUMBERTON 28358
DOWNSTATE ME CTR 919 739-7551

DOUGLAS, ARTHUR EUGENE, JR. P AC
59 59 65
209 W. 27TH STREET
LUMBERTON 28358
U OF NC 919 738-8230

DUNLAP, JACK ERWYN ORS AC
52 61 61
4320 FAYETTEVILLE ROAD
LUMBERTON 28358
U OF TENNESSEE 919 739-0634

FAX, JOHN NICHOLAS, JR. ORS AC
66 69 84
204 W. 28TH STREET
LUMBERTON 28358
U OF OREGON 919 739-4313

FLEMING, CHRISTOPHER PAUL OPH AC
77 78 82
202 W. 28TH ST.
LUMBERTON 28358
CASE WESTERN RES 919 739-0606

GASQUE, BOYD BENNETT, JR. DR AC
77 77 82
P. O. DRAWER 1527
LUMBERTON 28359
U OF NC 919 738-8222

HA, KHIE SEM FP AC
68 76 77
229 S. MAIN STREET
RED SPRINGS 28377
NATL TAIWAN U 919 843-4117

HARDIN, JAMES BENFORD FP AC
77 77 75
206 W. 28TH STREET
LUMBERTON 28358
U OF NC 919 739-8164

HEDGPETH, WILLIAM CAREY GYN L
34 33 36
P. O. BOX 1021
LUMBERTON 28358
NORTHWESTERN U 919 739-4923

HEGDE, SADANADA BELINJE CD AC
74 77 83
4384 FAYETTEVILLE RD.
LUMBERTON 28358
KASTURBA U 919 738-1141

HENDRICKS, ANDREW ADAM D AC
74 76 81
102 WEST 27TH STREET
LUMBERTON 28358
U OF VIRGINIA 919 738-7154

HEPLER, JOHN DAVIS OBG AC
69 69 79
403 WEST 27TH STREET
LUMBERTON 28358
U OF VIRGINIA 919 739-2846

HOEKSTRA, JOHN ARTHUR IM /AI AC
75 79 83
395 W. 27TH STREET
LUMBERTON 28358
U OF ILLINOIS 919 739-7551

HOFFMAN, CARL WHITE R AC
67 67 73
BARKER--TEN MILE RD.
PO BOX 1527
LUMBERTON 28358
BOWMAN GRAY 919 739-9788

HOOKS, RICHARD EUGENE GP AC
47 47 48
123 N. SECOND STREET
ST. PAULS 28384
U OF MARYLAND 919 865-5114

INMAN, CHARLES ERNEST FP AC
51 53 53
1212 S. WALNUT ST.
FAIRMONT 28340
DUKE 919 628-6711

JOHNSON, CHARLES THOMAS, JR. FP AC
53 53 53
222 S. MAIN STREET
RED SPRINGS 28377
JEFFERSON 919 843-4576

JORDAN, BARBARA MOORE P AC
54 54 59
207 W. 29TH STREET
LUMBERTON 28358
U OF NC 919 738-5261

JORDAN, RICHARD LIMING FP AC
71 71 80
2608 N. ELM STREET
LUMBERTON 28358
VANDERBILT U 919 738-9381

KNIGHT, EDWARD BERT, III PUD /IM AC
76 77 84
27TH STREET
LUMBERTON 28358
MED U OF SC 919 738-7551

LATHAM-SADLER, BRENDA FP AC
82 85 87
119 N. FLORENCE ST.
MAXTON 28364
BOWMAN GRAY 919 844-5253

LAWRENCE, JOHN CHARLES GS AC
50 57 57
P. O. BOX 1068
LUMBERTON 28358
VANDERBILT U 919 738-8571

LEE, HENRY NEILL, JR. IM AC
56 56 62
395 WEST 27TH STREET
LUMBERTON 28358
U OF NC 919 739-7551

MCCORMICK, CAROLYN BRUMM FP AC
72 72 76
500 W. 27TH STREET
LUMBERTON 28358
U OF IOWA 919 738-3718

MCJILTON, ROY ALAN OTO AC
64 64 84
4303 LUDGATE ST.
LUMBERTON 28358
ST LOUIS U 919 738-4226

MEYER, HOBART, JR. OBG AC
56 67 67
1920 E. BASELINE RD.
TEMPE, AZ 85283
TULANE U 602 345-5000

MOZINGO, GEORGE WM.,III U AC
76 77 87
101 W. 27TH ST.
LUMBERTON 28358
MED U OF SC 919 738-7166

NAIK, SOMNATH IM /PUD AC
75 76 83
4209 ALDWYCH ST.
LUMBERTON 28358
U OF BOMBAY 919 738-1141

PARSONS, LACY JACK OBS L/RT
42 43 46
2204 ROWLAND AVENUE
LUMBERTON 28358
NEW YORK U 919 739-6431

PITTMAN, ALFRED ROWLAND, JR. IM AC
45 45 48
2606 N. ELM STREET
LUMBERTON 28358
DUKE 919 739-3362

RICHARDSON, DAVID LEE IM AC
74 77 74
395 WEST 27TH STREET
LUMBERTON 28358
DUKE 919 739-7551

ROZIER, JOHN CHARLES, JR. OBG AC
67 67 76
4300 FAYETTEVILLE ROAD
LUMBERTON 28358
BOWMAN GRAY 919 738-9601

RYAN, WILLIAM SCOTT PD AC
73 74 85
103 W. 27TH ST.
LUMBERTON 28358
U OF KANSAS 919 739-3318

STRAWCUTTER, HOWARD E. U AC
50 53 56
PO BOX 1408
LUMBERTON 28359
JEFFERSON 919 738-6441

STUART, DENNIS O'GAREY FP AC
82 86 86
3580 FAYETTEVILLE RD.
LUMBERTON 28358
MED COLL OF VA 919 521-2816

THOMPSON, MARVIN WHITAKER PTH AC
62 62 67
P. O. BOX 847
LUMBERTON 28359
BOWMAN GRAY 919 738-6441

VILLANI, PETER LOUIS GS /CDS AC
72 73 82
33 TRINITY DRIVE
LUMBERTON 28358
WEST VA U 919 738-8556

WARD, D. E., JR. GS AC
45 45 53
2604 N. ELM STREET
LUMBERTON 28358
BOWMAN GRAY 919 738-4276

WESTER, THADDEUS BRYAN PD /PH AC
51 53 54
1001 BRIGHTHURST DR., APT. 101
RALEIGH 27605
DUKE 919 738-7231

†WESTFALL, ARLIE HAROLD OBG AC
55 66 67
4300 FAYETTEVILLE ROAD
DECEASED-5-23-87
LUMBERTON 28358
MED COLL OF VA 919 738-9601

WILLIAMSON, WARREN LIGON GS AC
66 66 74
295 WEST 27TH STREET
LUMBERTON 28358
LA STATE U 919 738-8556

YOUNG, ROBERT LASSITER, JR. PD AC
61 61 66
103 WEST 27TH STREET
LUMBERTON 28358
DUKE 919 739-3318

79. ROCKINGHAM COMPONENT SOCIETY

OFFICERS—**President:** Carroll Haines, M.D., 515 Thompson St., Eden 27288 (919 627-5271)
Secretary: Frank J. Lauzau, M.D., 518 S. Van Buren Rd. #7, Eden 27288 (919 623-4304)
Executive Secretary: Jo Ann Garrison, Annie Penn Hospital, Reidsville 27320 (919 349-8461)

BAKER, HERBERT MARVIN — FP AC: 57 57 58
546 MORGAN ROAD
EDEN 27288
LOMA LINDA U — 919 627-1129

BALSLEY, ROBERT EUGENE — EM /PD AC: 44 44 50
825 CRESCENT DRIVE
REIDSVILLE 27320
U OF VIRGINIA — 919 349-6335

BRADFORD, WILLIAM STRONG — GS AC: 80 82 86
629 S. MAIN ST.
REIDSVILLE 27320
UNPHU — 919 349-4024

BURKHART, CECIL ROBERT — PTH /CLP AC: 58 67 68
1006 OAKCREST DRIVE
REIDSVILLE 27320
U OF CINCINNATI — 919 349-8461

CALL, DAVID LEE — DR AC: 77 77 82
MOREHEAD MEM. HOSP.-RAD
EDEN 27288
U OF NC — 919 623-9711

CATENACCI, RICHARD — AN AC: 78 79 86
1114 MAIDEN LANE, APT. 10
REIDSVILLE 27320
HAHNEMANN — 919 349-8461

CLARKE, LEN GORDON — FP AC: 48 49 53
1018 E. MEADOW RD.
EDEN 27288
BOWMAN GRAY — 919 623-6836

COUNCIL, ALBERT BARBEE, JR. — FP AC: 51 51 56
701 S. VAN BUREN ROAD
EDEN 27288
BOWMAN GRAY — 919 623-1514

COX, ALEXANDER MCNEIL — GP L/RT: 32 32 38
325 S. MARKET STREET
MADISON 27025
MED COLL OF VA — 919 548-2240

DEMASON, MARC — GS AC: 78 80 84
515 THOMPSON ST., STE. B
EDEN 27288
U OF MICHIGAN — 919 623-9118

DESTEFANO, NEIL MICHAEL — GS /GYN AC: 56 57 64
PO BOX 780
REIDSVILLE 27320
NEW YORK MED COL — 919 349-8484

FLEISHMAN, HENRY ARNOLD — GS /CD AC: 74 75 80
515 THOMPSON ST., STE. B
EDEN 27288
EMORY U — 919 623-9118

FORBES, THOMAS EARL — FP L/RT: 40 40 42
P. O. BOX 659
REIDSVILLE 27320
JEFFERSON — 919 349-5324

FREEMAN, TYLER IRA — IM /OM AC: 59 60 82
511 BRIARWOOD DR.
EDEN 27288
CHICAGO MED SCH — 919 627-3081

HAINES, CARROLL FOGG, JR. — OPH AC: 78 82 84
515 THOMPSON ST., STE. A
EDEN 27288
HAHNEMANN — 919 627-5271

HENDERSON, DAVID JAMES — PD /A AC: 79 82 84
601 W. HARRISON ST.
PO BOX 2299
REIDSVILLE 27320
U OF NC — 919 349-8402

HOWARD, KEVIN PRICE — FP AC: 82 83 86
518 S. VAN BUREN RD., STE. #8
EDEN 27288
WAYNE STATE U — 919 623-5171

HUGHES, LOREN E. — FP AC: 83 84 87
402 W. DECATUR
MADISON 27025
SOU IL MED SCH — 919 548-9618

JOYCE, CHARLES WELDON — GP AC: 47 48 49
401 W. DECATUR ST.
MADISON 27025
BOWMAN GRAY — 919 548-9618

KEELING, J. WAYNE — ORS AC: 75 76 81
307 W. MOREHEAD STREET
REIDSVILLE 27320
MED COLL OF VA — 919 342-6116

LAUZAU, FRANK JUSTIN — IM AC: 81 82 85
518 S. VAN BUREN RD. #7
EDEN 27288
U OF NC — 919 623-4304

LEWIS, CHARLES PELL, JR. — OPH /OTO AC: 50 52 56
1307 COACH RD.
PO BOX 329
REIDSVILLE 27320
DUKE — 919 342-0588

LOTHIAN, GEORGE GENE — FP AC: 68 68 74
P. O. BOX 1857
REIDSVILLE 27320
U OF NC — 919 349-5040

MABE, PAUL ALEXANDER, JR. — FP AC: 53 54 56
1123 S. MAIN STREET
REIDSVILLE 27320
DUKE — 919 342-4286

MACRI, ANTHONY JOHN — PTH AC: 62 63 74
311 DOGWOOD DRIVE
EDEN 27288
JEFFERSON — 919 623-9711

MCGOUGH, WILLIAM MARION — FP AC: 81 81 84
1403 PENNROSE DR.
REIDSVILLE 27320
U OF MISSISSIPPI — 919 349-8461

MCINNIS, ANGUS GUY — FP AC: 57 57 63
1123 S. MAIN STREET
REIDSVILLE 27320
DUKE — 919 342-4286

MOORE, DONALD WILSON — FP AC: 76 80 81
401 W. DECATUR ST.
MADISON 27025
BOWMAN GRAY — 919 548-9618

MORICLE, CHARLES HUNTER — GS /ABS L/RT: 39 39 42
1223 CRESCENT DR.
REIDSVILLE 27320
U OF MARYLAND — 919 349-8590

NASH, CARL WILLIAM — R AC: 62 62 74
608 LINDEN DRIVE
EDEN 27288
U OF ARKANSAS — 919 623-9711

PAYNE, CLIFTON GADBERRY — FP AC: 56 56 60
P. O. DRAWER 1857
REIDSVILLE 27320
U OF NC — 919 349-5040

PORTER, ERIC JAMES — AN AC: 80 81 84
521 PATRICK ST.
EDEN 27288
CASE WESTERN RES — 919 623-1501

QURESHI, AYYAZ MAHMOOD — IM /ON AC: 75 75 85
505 N. THIRD AVE.
MAYODAN 27027
DOW MED COLLEGE — 919 548-2456

REYNOLDS, ERNEST HAROLD — FP L: 35 35 36
P. O. BOX 330
REIDSVILLE 27320
NEW YORK U — 919 349-3332

RICHARDSON, GEORGE IRVIN — FP AC: 55 55 58
P. O. BOX 1857
REIDSVILLE 27320
U OF NC — 919 349-5040

SACRINTY, NICHOLAS WILLIAM — IM /GE AC: 52 52 60
608 LINDEN DR.
EDEN 27288
BOWMAN GRAY — 919 623-9794

TRUSLOW, ROY EARL — R AC: 45 45 53
618 S. MAIN STREET
REIDSVILLE 27320
BOWMAN GRAY — 919 349-8461

WALKER, WILLIAM WAYNE ASHHURST — D AC: 55 57 83
608 LINDEN DR.
EDEN 27288
U OF VIRGINIA — 919 627-8585

WHITLEY, ROBERT RILEY — FP AC: 68 68 74
P. O. BOX 1689
REIDSVILLE 27320
U OF NC — 919 349-5040

WOODWARD, ROBERT WARREN — OBG AC: 61 82 83
517 WOODROW ST.
PO BOX 448
REIDSVILLE 27320
U OF CHICAGO — 919 342-6161

YOUNG, CHARLES GIBSON — IM /OM AC: 53 54 74
403 W. HARRISON STREET
P. O. BOX 359
REIDSVILLE 27320
DUKE — 919 349-5536

80. ROWAN COMPONENT SOCIETY

OFFICERS—**President:** Thomas K. Carlton, Jr., M.D., 720 Grove St., Salisbury 28144 (704 636-5576)
Secretary: Robert G. Steele, M.D., 400 Mocksville Ave., Salisbury 28144 (704 633-6442)

AGNER, ROY AUGUSTA, JR. — IM AC: 51 52 55
611 MOCKSVILLE AVENUE
SALISBURY 28144
DUKE — 704 633-7220

AGNER, ROY CHRISTOPHER — IM AC: 75 77 79
611 MOCKSVILLE AVENUE
SALISBURY 28144
DUKE — 704 636-9820

BACHL, FREDERICK JOSEPH — PD AC: 64 67 74
720 GROVE STREET
SALISBURY 28144
TUFTS U — 704 636-5576

BAILEY, HILDA HART — PD AC: 45 46 47
102 MOCKSVILLE AVENUE
SALISBURY 28144
U OF PENN — 704 633-3727

BARR, JOHN FINDLEY — AC: 80 81 86
CLEVELAND FAMILY PRACTICE
PO BOX 295
CLEVELAND 27013
HAHNEMANN

BERTRAM, ROBERT — U AC: 80 80 86
909 W. HENDERSON ST.
SALISBURY 28144
U OF KENTUCKY — 704 633-9441

BLACK, KYLE EMERSON — GS L: 38 41 46
825 W. HENDERSON STREET
SALISBURY 28144
U OF MICHIGAN — 704 636-5510

BLACK, WINSEL O'NEAL — GP AC: 61 62 67
601 MOCKSVILLE AVENUE
SALISBURY 28144
HOWARD U — 704 633-5048

BLOUNT, JOHN MYERS, III — FP /OM AC: 60 60 62
130 WOODSON ST.
SALISBURY 28144
U OF NC — 704 637-3207

80. ROWAN COMPONENT SOCIETY (Continued)

UMGARNER, JOHN HENRY AN /PUD AC
P. O. BOX 1735 66 67 67
SALISBURY 28144
MED COLL OF VA 704 638-1000

USBY, MERLE RUDY GS AC
901 W. HENDERSON STREET 70 70 79
SALISBURY 28144
DUKE 704 633-1581

ARLTON, THOMAS KERN, JR. PD AC
720 GROVE STREET 63 63 72
SALISBURY 28144
DUKE 704 636-5576

LINE, WAYNE ALLEN U AC
909 W. HENDERSON STREET 46 47 53
SALISBURY 28144
BOWMAN GRAY 704 633-9441

LINE, WAYNE ALLEN, JR. U AC
909 W. HENDERSON STREET 76 76 83
SALISBURY 28144
BOWMAN GRAY 704 633-9441

OCHRAN, W. GERALD PS AC
410 MOCKSVILLE AVE. 67 68 86
SALISBURY 28144
TEMPLE U 704 633-8561

OFFEY, JAMES CECIL GP L
8 PINE TREE ROAD 37 37 40
SALISBURY 28144
EMORY U 704 633-3794

ORPENING, JOSEPH DURHAM PD AC
720 GROVE STREET 52 54 56
SALISBURY 28144
DUKE 704 636-5576

RAWFORD, JOHN ROBERT, III OPH AC
310 N. MAIN STREET 66 66 71
SALISBURY 28144
U OF NC 704 633-7542

ONNELLY, GRANT LESTER PUD RT
240 WINDSOR DRIVE 33 33 68
SALISBURY 28144
DUKE 704 637-0905

ULA, FREDERICK MAST, JR. R AC
102 MOCKSVILLE AVE. 81 82 78
SALISBURY 28144
U OF NC 704 633-1023

DDINGER, CHARLES FREDERICK FP AC
P. O. BOX 45 55 55 57
SPENCER 28159
U OF NC 704 636-1720

LLIS, CHARLES ROBERT FP AC
106 S. MYRTLE ST. 82 84 86
CHINA GROVE 28023
BOWMAN GRAY 704 857-0137

RB, NORRIS SCRIBNER U AC
8 OAK ROAD 44 46 47
SALISBURY 28144
MED COLL OF VA 704 633-2449

ARRINGTON, CECIL MURRAY, JR. FP AC
322 MOCKSVILLE AVENUE 72 72 77
SALISBURY 28144
U OF NC 704 637-1123

EEZOR, CHARLES NOEL FP L
6 PINETREE ROAD 37 37 40
SALISBURY 28144
TEMPLE U 704 633-1787

IELD, BOB LEWIS FP L
1239 W. HENDERSON ST. 31 31 39
SALISBURY 28144
MED COLL OF VA 704 636-0732

INN, THOMAS MOSS IM AC
319 MOCKSVILLE AVE. 75 75 73
SALISBURY 28144
BOWMAN GRAY 704 637-3538

ISH, LARRY MORGAN IM AC
611 MOCKSVILLE AVENUE 64 64 72
SALISBURY 28144
BOWMAN GRAY 704 633-7220

OODWIN, JOEL SEXTON OBG AC
315 MOCKSVILLE AVENUE 59 59 68
SALISBURY 28144
U OF NC 704 636-9270

OSS, FREDERICK UHL IM AC
611 MOCKSVILLE AVE. 80 81 77
SALISBURY 28144
U OF NC 704 633-7220

GREEN, PAUL, JR. GYN AC
315 G MOCKSVILLE AVE. 51 56 58
SALISBURY 28144
DUKE 704 636-9270

GULYN, ANNA BAUHOFER GP AC
117 PINETREE ROAD 57 62 74
SALISBURY 28144
U OF INNSBRUCK 704 636-2351

GULYN, BOHDAN EMANUEL P /GP RT
117 PINETREE ROAD 40 40 75
SALISBURY 28144
U OF WIEN 704 633-7770

HALL, BAHNSON DAVID OBG AC
315 MOCKSVILLE AVENUE 74 74 81
SALISBURY 28144
BOWMAN GRAY 704 636-9270

HALL, JOSEPH CULLEN OBG L/RT
305 STUART DRIVE 42 42 48
SALISBURY 28144
VANDERBILT U 704 633-9508

HINSON, JAMES NOAH IM AC
102 MOCKSVILLE AVE., STE. 204 60 60 71
SALISBURY 28144
BOWMAN GRAY 704 633-3136

HOLT, CHARLES RICHARD EM /GS AC
17 CAMELOT RD., KINGS FOREST 52 57 80
SALISBURY 28144
BOSTON U 704 637-7504

JACKSON, JOSEPH ALEXANDER, III OPH AC
800 W. CEMETERY STREET 66 67 73
SALISBURY 28144
U OF FLORIDA 704 633-0345

JORDAN, RICHARD DORN R AC
7 PINETREE ROAD 61 61 67
SALISBURY 28144
U OF NC 704 633-1022

KOONTZ, WAYNE CARSON PD AC
720 GROVE STREET 64 64 69
SALISBURY 28144
BOWMAN GRAY 704 636-5576

LAMM, LEROY BARDEN P AC
P. O. BOX 427 46 46 77
ROCKWELL 28138
BOWMAN GRAY 704 279-7034

LOCKERT, CHARLES RAY ORS AC
102 MOCKSVILLE AVENUE 62 66 69
SALISBURY 28144
VANDERBILT U 704 637-0500

LOMAX, DONALD HENRY FP AC
KETNER CENTER 51 51 55
SALISBURY 28144
BOWMAN GRAY 704 636-5626

LOMBARD, R. ELIZABETH FP AC
P. O. BOX 457 53 54 54
ROCKWELL 28138
LOMA LINDA U 704 279-7227

MARSH, FRANK BAKER IM L/RT
725 LAKE DRIVE 19 20 22
SALISBURY 28144
JEFFERSON 704 633-2344

MARTIN, RICHARD W. GS AC
327 MOCKSVILLE AVE. 57 66 67
PO BOX 1665
SALISBURY 28144
CORNELL U 704 637-2750

MASON, WILLIAM TERRY ORS AC
400 MOCKSVILLE AVENUE 66 66 76
SALISBURY 28144
U OF MARYLAND 704 633-6044

MAYRAND, ELIZABETH PTH AC
701 BARKER ST. 45 64 69
SALISBURY 28144
U OF ILLINOIS 919 998-8433

MCELROY, RICHARD ALLEN GP AC
P. O. BOX 186 52 56 57
LANDIS 28088
TULANE U 704 857-2711

MCKENZIE, EDWARD BURT GS AC
709 BARKER STREET 51 56 57
SALISBURY 28144
U OF ROCHESTER 704 633-3441

MILLER, ALMA ELIZABETH P /IM AC
1111 CRESTVIEW DRIVE 49 54 72
SALISBURY 28144
MEHARRY MED COLL 704 637-2729

MURPHY, THOMAS LYNCH GE /GE L/RT
409 MOCKSVILLE AVE. 43 43 54
SALISBURY 28144
HARVARD 704 633-2732

NEWMAN, HAROLD HASTINGS, JR. GP /OM AC
516 MOCKSVILLE AVENUE 45 45 48
SALISBURY 28144
JOHNS HOPKINS 704 633-7070

OLIVER, JOSEPH ANDREW FP L
P. O. BOX 458 33 34 37
ROCKWELL 28138
LOMA LINDA U 704 279-7227

PARADA, MALCOLM PERRY OBG AC
315 MOCKSVILLE AVENUE 64 64 71
SALISBURY 28144
U OF CINCINNATI 704 636-9270

PARROTT, FRANK STRONG GS L/RT
P. O. BOX 637 43 43 54
SALISBURY 28144
U OF MARYLAND

POTTS, RONALD SARGENT PTH AC
115 WAVERLY CIRCLE 54 59 82
SALISBURY 28144
MCGILL U 704 633-7765

RENDLEMAN, DAVID ATWELL, JR. FP AC
P. O. BOX 4327 44 44 48
SALISBURY 28144
EMORY U 704 633-0844

REYNOLDS, JAMES W., JR. OTO /A AC
826 W. HENDERSON STREET 64 64 72
SALISBURY 28144
U OF NC 704 633-8276

REYNOLDS, JOHN OZMENT, JR. OPH AC
410 MOCKSVILLE AVE. 71 71 76
SALISBURY 28144
U OF NC 704 637-0158

ROBERTSON, LLOYD HARVEY, JR. U AC
909 W. HENDERSON STREET 60 60 65
SALISBURY 28144
DUKE 704 633-9441

SCOTT, ALAN FULTON FP AC
P. O. BOX 63 43 43 47
SALISBURY 28144
U OF PENN 704 636-5431

SHAFER, FRANK TYACK IM AC
P. O. BOX 2129 51 51 52
SALISBURY 28144
BOWMAN GRAY 704 636-1826

SHANNON, WILLIAM GARY AN AC
ROUTE #8, BOX 315 72 72 75
SALISBURY 28144
BOWMAN GRAY 704 637-3599

SHINN, GEORGE CLYDE GP L
111 N. MAIN STREET 33 33 40
CHINA GROVE 28023
U OF MARYLAND 704 857-7098

SKOWRONEK, DAVID GORDON EM /ORS AC
11 SPICEWOOD LANE 74 74 79
SALISBURY 28144
BOWMAN GRAY 704 638-1035

SLOOP, NORMAN RAY GP AC
310 STATESVILLE BOULEVARD 59 59 62
SALISBURY 28144
BOWMAN GRAY 704 636-5326

SMITH, DAVID NIMMONS IM /CD AC
102 MOCKSVILLE AVE., STE. 103 66 66 67
SALISBURY 28144
BOWMAN GRAY 704 636-6632

SMITH, JAY LELAND, JR. GP AC
P. O. BOX 85 42 42 46
SPENCER 28159
JEFFERSON 704 636-8046

SPARGO, JOHN PRICHARD FP AC
P. O. BOX 278 55 55 59
COOLEEMEE 27014
BOWMAN GRAY 704 284-2331

SPENCER, ALLEN GS /GYN AC
820 W. HENDERSON STREET 54 54 60
SALISBURY 28144
U OF NC 704 633-2883

SPENCER, FREDERICK BRUNELL, JR IM AC
820 W. HENDERSON STREET 45 45 48
SALISBURY 28144
MED COLL OF VA 704 636-5016

80. ROWAN COMPONENT SOCIETY (Continued)

STEELE, ROBERT GIBSON ORS AC
400 MOCKSVILLE AVENUE 73 74 78
SALISBURY 28144
EMORY U 704 633-6442

TANNEHILL, ROBERT BRUCE PD AC
720 GROVE STREET 59 62 62
SALISBURY 28144
MED COLL OF GA 704 636-5576

THOMPSON, WILLARD RAY OTO AC
102 MOCKSVILLE AVENUE 69 69 77
SALISBURY 28144
MED COLL OF VA 704 637-3344

THURSTON, THOMAS GARDINER, II R /NM AC
P.O. DRAWER 2608 41 41 47
SALISBURY 28144
HARVARD 704 636-0848

THURSTON, THOMAS GARDINER, III OBG AC
315 MOCKSVILLE AVENUE 68 68 76
SALISBURY 28144
DUKE 704 636-9270

WALSH, CARLE DOUGLAS D L/RT
921 CONFEDERATE AVENUE 31 31 56
SALISBURY 28144
COLUMBIA U 704 636-2466

WARD, DEMMING MORTON IM AC
319 MOCKSVILLE AVENUE 74 74 80
SALISBURY 28144
BOWMAN GRAY 704 637-3538

WATTS, HUGH BOYD ORS AC
130 MOCKSVILLE AVE. 62 62 71
SALISBURY 28144
U OF TENNESSEE

WEAR, JOHN EDMUND R AC
102 MOCKSVILLE AVE., #206 46 52 52
SALISBURY 28144
NORTHWESTERN U 704 633-1022

WEBB, WILLIAM WHITAKER, JR. D AC
400-C MOCKSVILLE AVENUE 71 71 79
SALISBURY 28144
U OF NC 704 636-0971

WHICKER, WINFRY EVANS FP AC
P. O. BOX 595 63 63 66
CHINA GROVE 28023
BOWMAN GRAY 704 857-1108

WOOTEN, WAYNE BROWN DR AC
102 MOCKSVILLE AVE. #206 74 74 78
SALISBURY 28144
BOWMAN GRAY 704 633-1023

WRIGHT, RICHARD BRANDON, JR. FP L
102 MOCKSVILLE AVENUE 42 42 47
SALISBURY 28144
TULANE U 704 633-6010

81. RUTHERFORD COMPONENT SOCIETY

OFFICERS—**President:** Douglas D. Sheets, M.D., P.O. Box 1208, Rutherfordton 28139 (704 287-7383)
Secretary: James Van Jura, M.D., 121 Tryon Rd., Rutherfordton 28139 (704 286-2302)

BECKNELL, GEORGE FRANKLIN, JR. GP AC
407 S. BROADWAY 51 52 53
FOREST CITY 28043
MED U OF SC 704 245-4838

CARTER, JOHN JEFFERSON, JR. P AC
CITY RT. #3, 311 FAIRGROUND RD 75 76 85
SPINDALE 28160
U OF ALABAMA 704 287-2211

ELIZONDO, MERCEDITAS O. GP /PTH AC
20 N. MAIN STREET 64 77 82
CLIFFSIDE 28024
CEBU INST OF MED 704 657-9742

HARDING, ROBERT WILLIAM IM AC
NORRIS-BIGGS CLINIC 64 65 71
RUTHERFORDTON 28139
ST U OF NY-BUFF

HUGHES, JOE DON OBG AC
P. O. BOX 1208 59 64 65
RUTHERFORDTON 28139
U OF TEXAS 704 287-7383

HYDE, AUSTIN TABER, JR. A /IM AC
NORRIS-BIGGS CLINIC 51 54 57
PO BOX 970
RUTHERFORDTON 28139
U OF VIRGINIA 704 286-9036

JAMES, CHARLES NEWTON FP AC
P. O. BOX 518 67 68 69
CAROLEEN 28019
MED COLL OF VA 704 657-5371

JASKI, THOMAS JOHN GE /IM AC
NORRIS-BIGGS CLINIC 67 67 74
P. O. BOX 970
RUTHERFORDTON 28139
ST LOUIS U 704 286-9036

LAWRENCE, ROBERT S. FP AC
313 PINE STREET 75 75 86
RUTHERFORDTON 28139
MED U OF SC

LESHER, DONALD TICE DR AC
909 N. WASHINGTON STREET 76 76 81
RUTHERFORDTON 28139
U OF TENNESSEE 704 287-7371

LLOYD, HARRY DAVIDSON U AC
NORRIS-BIGGS CLINIC 64 66 72
RUTHERFORDTON 28139
U OF FLORIDA 704 286-9036

LOVELACE, THOMAS CLAUDE GP /OBS L/RT
P. O. BOX 295 17 20 20
HENRIETTA 28076
NC MED COLL 704 657-5118

MARSTON, CHARLES THOMAS, JR. PD AC
117 TRYON ROAD 78 81 76
RUTHERFORDTON 28139
U OF NC 704 286-9049

MEBANE, JOHN GILMER IM L/RT
P. O. BOX 1405 41 48 49
RUTHERFORDTON 28139
HARVARD 704 287-3515

MITCHELL, LANDIS PATTERSON FP L
200 OHIO STREET 38 40 41
SPINDALE 28160
WASHINGTON U 704 286-2391

MOORING, STEWART LEE R /NM AC
RUTHERFORD HOSPITAL 55 55 62
RUTHERFORDTON 28139
U OF NC 704 287-7371

MOSS, GEORGE OREN GP /PH L/RT
ROUTE #1, BOX 397JJ 27 28 29
BOSTIC 28018
EMORY U 704 245-2853

RADFORD, HOWARD LEE FP AC
P. O. BOX 427 54 54 56
CLIFFSIDE 28024
BOWMAN GRAY 704 657-5221

ROGERS, HOBART RAY ORS /HS AC
NORRIS-BIGGS CLINIC 63 63 72
RUTHERFORDTON 28139
BOWMAN GRAY 704 286-9036

SELF, JERRY LEE DR AC
PO BOX 886 77 77 75
217 W. SECOND ST.
RUTHERFORDTON 28139
U OF NC 704 287-2984

SHAPIRO, WILLIAM HARTMAN IM /CD AC
NORRIS-BIGGS CLINIC 61 61 69
RUTHERFORDTON 28139
OHIO STATE U 704 286-9036

SHEETS, DOUGLAS DEAN OBG AC
TRYON RD., PO BOX 1208 74 74 81
RUTHERFORDTON 28139
INDIANA U 704 287-7383

TANNER, KENNETH SPENCER, JR. GS L/RT
PO BOX 468 43 47 48
RUTHERFORDTON 28139
HARVARD 704 286-9036

WHEELER, MICHAEL STEVENS PTH AC
15 SQUIRREL DEN DRIVE 77 79 75
RUTHERFORDTON 28139
U OF NC 704 287-7371

WHITWORTH, CLAUDE PHILLIP IM AC
RT. 3, BOX 315 BB 79 81 85
FOREST CITY 28043
U OF NC 704 286-9036

WINKER, JOEL EDWARD OBG AC
P. O. BOX 1208 63 64 73
RUTHERFORDTON 28139
CORNELL U 704 287-7383

82. SAMPSON COMPONENT SOCIETY

OFFICERS—**President:** John E. Scarff, Jr., M.D., 503 Parker St., Clinton 28328 (919 592-7129)
Secretary: Agapito L. Fajardo, M.D., 407 Beaman St., Clinton 28328 (919 592-1462)

AYERS, JAMES SALISBURY FP L
PROFESSIONAL BUILDING 32 32 37
CLINTON 28328
JEFFERSON 919 592-2541

BARR, FALVY CARL, JR. PTH /FOP AC
404 BUTLER DRIVE 72 75 82
CLINTON 28328
LA STATE U 919 592-8511

CALDWELL, BRUCE FRANCIS EM /GS AC
P. O. BOX 1006 63 63 70
CLINTON 28328
U OF NC 919 592-8511

CARR, HENRY JAMES, JR. IM AC
603 BEAMAN STREET 54 54 62
CLINTON 28328
DUKE 919 592-6114

CROUTCHER, DONALD LEWIS R /NM AC
P. O. BOX 1130 66 67 77
CLINTON 28328
U OF KENTUCKY 919 592-6924

DAMBECK, ALLYN BENARD EM AC
312 FOX LAKE DRIVE 54 56 78
CLINTON 28328
U OF VERMONT 919 592-8511

EHRLICHMAN, GLORIA SOTOMAYOR PD AC
603 BEAMAN STREET 55 56 74
CLINTON 28328
U OF PUERTO RICO 919 592-7712

FAJARDO, AGAPITO LACSON GP AC
407 BEAMAN ST. 71 75 77
CLINTON 28328
U OF SANTO TOMAS 919 592-1462

HERRING, RUFUS MCPHAIL, JR. PD AC
403 FAIRVIEW STREET 69 69 74
CLINTON 28328
BOWMAN GRAY 919 592-6011

82. SAMPSON COMPONENT SOCIETY (Continued)

HOWARD, JOSEPH COOPER, JR. GS AC
42 42 47
HOSPITAL PROF. BLDG.
CLINTON 28328
TEMPLE U 919 592-2167

HUBBARD, HAMPTON U AC
47 47 73
WOODSIDE PROF. BLDG.
CLINTON 28328
MED COLL OF VA 919 592-7129

KENDALL, JOHN HAROLD GP L
35 35 35
715 STEWART AVENUE
CLINTON 28328
LOMA LINDA U 919 592-2161

LEAK, FRANK WALTER FP AC
67 67 70
CLINTON MEDICAL CLINIC
CLINTON 28328
U OF NC 919 592-6011

MARGOLIS, JEFFREY ALAN IM AC
78 79 80
603 BEAMON ST.
CLINTON 28328
U OF NC 919 592-6114

NANCE, JOHN WESLEY FP AC
48 49 52
403 FAIRVIEW STREET
CLINTON 28328
BOWMAN GRAY 919 592-6011

NEWTON, JOHN THOMAS FP AC
81 82 78
403 FAIRVIEW ST.
CLINTON 28328
U OF NC 919 592-6011

OWENS, WILLIAM LAWRENCE IM AC
61 61 68
WOODSIDE PROF. BLDG.
CLINTON 28328
U OF NC 919 592-4605

PEAK, LATHAM CONRAD FP AC
51 51 56
ROSEBORO MEDICAL CLINIC
ROSEBORO 28382
BOWMAN GRAY 919 525-5055

REITER, RICHARD MARTIN GS AC
70 75 87
603 BEAMON ST.
CLINTON 28328
HOWARD U 919 592-8711

ROBERTS, JOHN MILTON, JR. OBG AC
74 74 81
400 COOPER DRIVE
CLINTON 28328
BOWMAN GRAY 919 592-1414

ROUSE, JOHN LAWRENCE, III FP AC
73 73 77
403 FAIRVIEW ST.
CLINTON 28328
BOWMAN GRAY 919 592-6011

ROYAL, DONNIE MARTIN GP L
26 26 28
BOX 156
SALEMBURG 28385
MED COLL OF VA 919 525-4538

SCARFF, JOHN EDWIN, JR. U /GS AC
63 63 80
603 BEAMAN ST.
CLINTON 28328
BOWMAN GRAY 919 592-7129

SIY-HIAN, BIENVENIDO CHAN IM /CD AC
71 76 78
603 BEAMAN STREET
CLINTON 28328
U OF EAST 919 592-1545

SMITH, JOHN BRASWELL, JR. FP AC
77 77 80
403 FAIRVIEW STREET
CLINTON 28328
U OF NC 919 592-6011

SUMPIO, BERNARDO D. EM /IM AC
54 77 77
209 FOX LAKE DRIVE
CLINTON 28328
MANILA U 919 592-8847

SURRATT, JOHN PEELER D AC
71 71 78
603 BEAMON ST.
CLINTON 28328
U OF NC 919 592-5583

SWANTON, MARGARET CATHERINE PTH AC
46 49 53
P. O. BOX 1089
CLINTON 28328
JOHNS HOPKINS 919 592-8511

WOODS, THOMAS J. CROFFORD OPH /EM AC
74 74 82
WOODSIDE PROF. BLDG.
CLINTON 28328
U OF MISSISSIPPI 919 592-7860

83. SCOTLAND COMPONENT SOCIETY

OFFICERS—**President:** Fred H. Mabry, Jr., M.D., 418 King St., Laurinburg 28352 (919 276-7570)
Secretary: James M. Currin, M.D., 515 Lauchwood Dr., Laurinburg 28352 (919 276-1340)

ALCINI, JOHN JOSEPH, JR. DR /NM AC
67 68 74
SCOTLAND MEMORIAL HOSPITAL
LAURINBURG 28352
WAYNE STATE U 919 276-2121

BALL, FRANK JERVEY, JR. IM AC
76 78 81
601 LAUCHWOOD DR.
LAURINBURG 28352
MED U OF SC 919 276-7727

†CREED, GEORGE OTIS GP L
42 46 46
P. O. BOX 809
DECEASED - 5-17-87
LAURINBURG 28352
MED U OF SC 919 276-0421

CURRIN, JAMES MITCHELL, JR. FP AC
77 77 81
515 LAUCHWOOD DRIVE
LAURINBURG 28352
BOWMAN GRAY 919 276-1340

FRENCH, THOMAS NASH U AC
66 66 75
LAURINBURG SURGICAL CLI.
PO BOX 1808
LAURINBURG 28352
U OF NC 919 276-3541

LIAO, FU CHE OTO AC
60 61 75
RT. #6, CYPRESS DR.
LAURINBURG 28352
TAIWAN U-TAIPEI 919 276-8205

MABRY, FREDERICK HARRISON, JR. PD AC
77 77 75
418 KING STREET
LAURINBURG 28352
U OF NC 919 276-7570

MATTSON, MARK WARREN GS AC
77 78 84
PO BOX 1808
LAURINBURG 28352
NORTHWESTERN U 919 276-3541

MCARN, HUGH MUNROE, JR. FP /GP AC
53 53 56
422 KING STREET
LAURINBURG 28352
DUKE 919 276-2100

MCCASKILL, LLOYD CURTIS EM /FP AC
55 55 57
P. O. BOX 788
MAXTON 28364
U OF NC 919 844-3236

MCKEITHEN, MURDOCH RITCHIE OBG AC
53 53 56
P. O. BOX 1808
LAURINBURG 28352
WASHINGTON U 919 276-4432

MCQUEEN, JAMES AUBREY PD AC
70 70 79
418 KING STREET
LAURINBURG 28352
U OF NC 919 276-7570

MITCHENER, JAMES SAMUEL, JR. GS AC
47 47 56
P. O. BOX 1808
LAURINBURG 28352
JOHNS HOPKINS 919 276-3541

NISBETT, DONALD ALWIN FP AC
79 80 85
616 ATKINSON ST.
LAURINBURG 28352
ALBERT EINSTEIN 919 277-0971

PURCELL, WILLIAM ROBERT PD AC
56 56 61
418 KING STREET
LAURINBURG 28352
U OF NC 919 276-7570

RODGERS, THEODORE YOUNG, III ORS AC
52 53 78
507 W. COVINGTON STREET
LAURINBURG 28352
NEW YORK MED COL 919 276-3541

SAVIDGE, THOMAS OLIVER IM /CD AC
60 60 79
601 LAUCHWOOD DR.
LAURINBURG 28352
HAHNEMANN 919 276-7727

SMITHWICK, JAMES DAVID PD AC
70 70 78
ROUTE #3, BOX 238-B
LAURINBURG 28352
U OF NC 919 276-7570

TATUM, BEN SULLIVAN OBG AC
59 60 67
P. O. BOX 1599
LAURINBURG 28352
MED U OF SC 919 276-4432

WILLITTS, BRUCE KIRBY OBG AC
56 56 79
P. O. BOX 1808
LAURINBURG 28352
CASE WESTERN RES 919 276-4432

WINN, BARBARA JANE PETERS IM AC
52 67 68
605 PEDEN STREET
LAURINBURG 28352
MED COLL OF PENN 919 276-6637

84. STANLY COMPONENT SOCIETY

OFFICERS—**President:** Stephen C. Seltzer, M.D., 320 Yadkin St., Albemarle 28001 (704 982-9144)
Secretary: James E. Drake, M.D., 301 Yadkin St., Albemarle 28001 (704 249-1515)

BALLENGER, CLAUDE NEWTON, JR. PD AC
54 59 60
1003 N. SIXTH STREET
ALBEMARLE 28001
U OF VIRGINIA 704 982-2133

BARRON, BRUCE JOSEPH GS AC
69 70 77
901 N. THIRD ST.
PO BOX 1398
ALBEMARLE 28001
U OF OTTAWA 919 982-0161

CABUGWASON, LUCILA NOVAL GP AC
63 78 80
28 N. MAIN ST.
PO BOX 726
NORWOOD 28128
CEBU INST OF MED 704 474-3317

EDDINS, GEORGE EDGAR, JR. IM /CD AC
45 51 51
214 E. NORTH STREET
ALBEMARLE 28001
CORNELL U 704 982-1136

FORT, WILKINSON DAVIS OBG AC
60 64 64
1000 N. FIFTH STREET
ALBEMARLE 28001
U OF TENNESSEE 704 982-8112

FREEMAN, WILLIAM HARRISON GS AC
44 44 47
P. O. DRAWER 1398
ALBEMARLE 28001
BOWMAN GRAY 704 982-0161

84. STANLY COMPONENT SOCIETY (Continued)

GAITHER, ROBERT HUTH — OBG AC: 64 64 72
1000 N. FIFTH STREET
ALBEMARLE 28001
GEO WASHINGTON U — 704 982-8112

GASKIN, JOHN STOVER, JR. — FP AC: 59 59 61
206 W. MAIN ST.
LOCUST 28097
DUKE — 704 983-3121

GREEN, FRANCIS WEATHERLY — IM AC: 56 56 64
1009 N. 6TH ST.
ALBEMARLE 28001
U OF NC — 704 982-8169

HERRING, JOHN HARVARD — OBG AC: 58 68 68
1000 N. FIFTH STREET
ALBEMARLE 28001
U OF TENNESSEE — 704 982-8112

HILL, WILLIAM HENRY — GP AC: 44 44 46
501 HILL BUILDING
ALBEMARLE 28001
BOWMAN GRAY — 704 982-5812

JENKINS, LARRY PARKER — OPH AC: 64 64 73
121 YADKIN STREET
ALBEMARLE 28001
U OF TENNESSEE — 704 983-1102

JOHNSEN, ERIC MERRIMAN — FP AC: 77 78 80
1007 N. 6TH ST.
ALBEMARLE 28001
WAYNE STATE U — 704 983-3121

JOLLY, WILLIAM OSCAR, III — FP AC: 63 63 67
320 YADKIN STREET
ALBEMARLE 28001
U OF NC — 704 982-9144

KANDL, LOUIS CHARLES — IM /ID AC: 72 79 81
331 N. FIRST ST.
ALBEMARLE 28001
HAHNEMANN — 704 982-2189

KELLEY, THOMAS FRANCIS — FP AC: 46 49 50
320 YADKIN STREET
ALBEMARLE 28001
DUKE — 704 982-9144

LACROIX, CAROL ANN — FP AC: 80 80 81
320 YADKIN STREET
ALBEMARLE 28001
WRIGHT STATE U — 704 982-9144

LEFLER, RUFUS STAMEY, III — IM /CD AC: 78 78 75
214 E. NORTH STREET
ALBEMARLE 28001
BOWMAN GRAY — 704 982-1136

LEIBY, GEORGE MARTIN — GPM L/RT: 31 33 34
5201 ROMA AVE., NE
ALBUQUERQUE, NM 87108
VANDERBILT U — 505 898-1384

LILES, RICHARD VERNON, JR. — FP AC: 57 57 62
320 YADKIN STREET
ALBEMARLE 28001
U OF NC — 704 982-9144

MAC, HARJIT BALA — PM AC: 70 70 84
P. O. BOX 1230
ALBEMARLE 28002
B J MED COLL — 704 983-3314

MAC, SURENDRAPAL SINGH — ORS /HS AC: 70 75 80
P. O. BOX 1230
ALBEMARLE 28001
GANDHI MED. COLL — 704 983-3314

MANGUM, ADDISON GOODLOE — R AC: 58 58 67
P. O. BOX 1258
ALBEMARLE 28002
U OF NC — 704 982-5319

MCKENZIE, WAYLAND NASH — GP L: 35 35 37
P. O. BOX 248
ALBEMARLE 28002
MED COLL OF VA — 704 982-3312

MCLEOD, WILLIAM LOUIS — GP L: 38 38 40
P. O. BOX 100
OAKBORO 28129
TEMPLE U — 704 485-3319

MEHTA, NALIN CHIMANLAL — IM /ON AC: 72 75 82
815 N. THIRD ST.
ALBEMARLE 28001
B J MED COLL — 704 983-3508

MURRAY, JOHN P. — OTO AC: 66 66 86
PO BOX 819
ALBEMARLE 28001
WASHINGTON U — 704 983-6950

ROSS, WILLIS RICHARD — FP AC: 52 53 53
320 YADKIN STREET
ALBEMARLE 28001
MED U OF SC — 704 982-9144

SELTZER, STEPHEN CHARLES — FP AC: 74 75 79
320 YADKIN STREET
ALBEMARLE 28001
U OF IOWA — 704 982-9144

SMITH, WHITMAN ERSKINE, JR. — GS AC: 57 57 64
P. O. BOX 1398
ALBEMARLE 28001
DUKE — 704 982-0161

WALLACE, JOHN MORRIS — PTH AC: 59 61 64
P. O. BOX 1489
ALBEMARLE 28001
MED U OF SC — 704 982-0148

86. SURRY-YADKIN COMPONENT SOCIETY

OFFICERS—**President:** Marjorie E. Matthews, M.D., P.O. Box 667, Pilot Mountain 27041 (919 368-4198)
Secretary: Nelson Gardner, M.D., 819 Rockford St., Mount Airy 27030

APPLER, MARK LEE — GE /IM AC: 80 81 80
P. O. BOX 1547
MT. AIRY 27030
BOWMAN GRAY — 919 786-6196

BOKESCH, CHARLES RICHARD — CD /IM AC: 73 74 78
P. O. BOX 1547
MOUNT AIRY 27030
EMORY U — 919 786-6146

BRITT, TILMAN CARLISLE, JR. — CD /IM AC: 47 48 52
216 GRACE STREET
MOUNT AIRY 27030
BOWMAN GRAY — 919 786-5745

BRYANT, JAMES EDWIN — IM AC: 77 80 81
P. O. BOX 68
YADKINVILLE 27055
BOWMAN GRAY — 919 679-2041

BURKE, JAMES GILLUM — ORS AC: 73 74 79
414 W. LEBANON STREET
P. O. BOX 1544
MOUNT AIRY 27030
EMORY U — 919 789-9041

CALDWELL, ROBERT MANFRED — PH L/RT: 36 36 40
227 GRACE ST.
MOUNT AIRY 27030
U OF VIRGINIA — 919 374-2131

COOKE, RALPH MCBRIDE — GP /GER L: 40 46 47
631 ELK SPUR ST.
ELKIN 28621
U OF LOUISVILLE — 919 835-3525

CROWE, JAMES EARL — DR AC: 66 66 73
RADIOLOGY DEPT.
NORTHERN HOSP. OF SURRY CO.
MOUNT AIRY 27030
BOWMAN GRAY — 919 789-9541

CROWE, JOHN ALBERT, JR — GS AC: 67 68 74
HOOTS MEM. HOSPITAL
BOX 68
YADKINVILLE 27055
MED COLL OF GA — 919 689-3111

DUDLEY, CHARLES COUNCIL, JR. — PTH /FP: 55 55 59
320 IVY CIRCLE
ELKIN 28621
U OF NC — 919 835-2931

ERLANDSON, STEPHEN ERIC — FP AC: 75 75 80
815 N. BRIDGE ST.
ELKIN 28621
U OF NC — 919 835-4819

EVERHART, CARLTON DHU — FP AC: 58 58 61
911 WORTH ST.
MOUNT AIRY 27030
BOWMAN GRAY — 919 786-5108

FENCL, RAYMOND JOHN — U AC: 69 71 87
180-0 PARKWOOD
ELKIN 28621
U OF ILLINOIS — 919 526-2000

GITT, KENNETH DARYL — OBG AC: 80 84 85
708 S. SOUTH STREET
MOUNT AIRY 27030
U OF NEBRASKA — 919 786-4522

GRIFFIN, ADRIAN MARK — EM /P AC: 77 77 74
PO BOX 1623
913 WORTH ST.
MOUNT AIRY 27030
BOWMAN GRAY — 919 786-2001

GULLEY, PAUL HUDSON — IM /END AC: 78 81 84
180-B PARKWOOD DR.
ELKIN 28621
BOWMAN GRAY — 919 748-2011

HALL, JAMES GRAYSON — FP AC: 57 57 63
P. O. BOX 158
DOBSON 27017
U OF NC — 919 386-8270

HALL, JOHN MOIR — GP L/RT: 42 47 47
357 IVY CIRCLE
ELKIN 28621
U OF VIRGINIA — 919 835-4534

HALL, LOCKSLEY S. — GS AC: 59 59 61
L.C. HOOTS MEMORIAL HOSPITAL
YADKINVILLE 27055
BOWMAN GRAY — 919 679-2041

HUGHES, CARLISLE BEE, JR. — GS L/RT: 40 51 52
RT. 2, BOX 567
YADKINVILLE 27055
MED COLL OF VA — 919 679-8285

JACKSON, DAVID DEWITT — GS /CDS AC: 73 73 79
P. O. BOX 191
MOUNT AIRY 27030
BOWMAN GRAY — 919 789-9176

JACKSON, RICHARD DEWITT — GS L/RT: 45 46 56
1067 GREENHILL ROAD
MOUNT AIRY 27030
TEMPLE U — 919 786-2400

JARRELL, WILBURN ERIC — FP AC: 54 56 58
2007 SALEM ROAD
MOUNT AIRY 27030
U OF VIRGINIA — 919 786-5050

KERLEY, ROGER KENNY — IM AC: 79 80 84
708 S. SOUTH STREET
P. O. BOX 1547
MOUNT AIRY 27030
U OF NC — 919 786-6146

LARSON, KIP LEROY — FP AC: 78 79 86
805 MERITA ST.
MOUNT AIRY 27030
EASTERN VA — 919 789-0454

LAWRENCE, BENJAMIN JONES, JR. — GS/PS AC: 47 47 48
813 ROCKFORD ST.
PO BOX 72
MOUNT AIRY 27030
JEFFERSON — 919 786-7871

LEVINE, MAX PHILLIP — GS /CDS AC: 68 70 80
180 N. PARKWOOD MED. CENT.
ELKIN 28621
CHICAGO MED SCH — 919 835-7600

MATTHEWS, MARJORIE E.F. — FP AC: 61 61 65
P. O. BOX 667
PILOT MOUNTAIN 27041
BOWMAN GRAY — 919 368-4198

86. SURRY-YADKIN COMPONENT SOCIETY (Continued)

MCGRATH, JAMES STUART FP AC
EAST BEND FAMILY PRACTICE 80 80 84
P. O. BOX 126
EAST BEND 27018
TULANE U 704 699-3936

MCNEILL, CLAUDE ACKLE, JR. FP L/RT
248 DUTCHMAN CREEK RD. 43 43 48
ELKIN 28621
BOWMAN GRAY 919 835-3136

MERLO, RICHARD BARTLETT R /NM AC
773 BROOKWOOD DRIVE 61 61 67
ELKIN 28621
DUKE 919 835-3722

PERRY, HENRY BAKER, JR. GYN L/RT
477 HAWTHORNE RD. 43 43 47
ELKIN 28621
U OF MARYLAND 919 835-6183

RIDGWAY, ALTON H. AN /FP AC
RFD #3, BOX 34-I 42 43 84
EAST BEND 27018
INDIANA U 919 699-8283

ROBERTSON, CHARLES G.,JR. FP /IM AC
815 ROCKFORD STREET 54 54 56
MOUNT AIRY 27030
U OF NC 919 786-7107

SIMMONS, JIMMIE DALE PH /FP AC
SURRY COUNTY HEALTH DEPT. 57 57 61
PO BOX 1062
DOBSON 27017
BOWMAN GRAY 919 374-2131

SMITH, ROBERT LEE PTH AC
320 ROBIN ROAD 64 64 74
MOUNT AIRY 27030
U OF VIRGINIA 919 789-9710

STABLER, CAREY VASTINE EM /IM AC
NORTHERN HOSP.-SURRY CO. 62 62 74
MOUNT AIRY 27030
U OF ARKANSAS 919 789-9541

STUART, HAL MARTIN FP AC
180-C PARKWOOD DRIVE 56 56 61
ELKIN 28621
BOWMAN GRAY 919 835-3613

SYKES, CHARLES LOUIS FP /IM L
P. O. BOX 590 38 38 39
MOUNT AIRY 27030
GEORGETOWN U 919 786-6105

TAYLOR, VERNON WILLIAMS, JR. FP L
815 N. BRIDGE STREET 38 38 41
ELKIN 28621
JEFFERSON 919 835-3425

TETA, JOSEPH MICHAEL GP AC
P. O. BOX 242 38 38 74
ROARING GAP 28668
NEW YORK MED COL 919 363-2349

VAUGHN, TOM JIMISON, JR. OBG AC
708 S. SOUTH ST. 75 78 85
MOUNT AIRY 27030
U OF VIRGINIA 919 786-4522

WATERS, DEAN GALE OBG AC
708 S. SOUTH STREET 56 64 65
MOUNT AIRY 27030
JOHNS HOPKINS 919 786-4522

WOOD, WILLIAM LUPTON, SR. GP L/RT
P. O. BOX 367 45 45 47
YADKINVILLE 27055
BOWMAN GRAY 919 679-8689

87. SWAIN COMPONENT SOCIETY

OFFICERS—**President:** Harold L. Bacon, M.D., 947 Richmond St., Bryson City 28713 (704 488-2105)
Secretary: Kenneth M. Mathiesen, M.D., 960 Plateau St., Bryson City 28713 (704 488-6844)

BACON, HAROLD LYLE GP L
948 RICHMOND 34 35 36
BRYSON CITY 28713
NORTHWESTERN U 704 488-2105

CUNNINGHAM, EDWARD RAY GS /GP AC
P. O. BOX 760 75 80 84
BRYSON CITY 28713
U OF NC 704 488-2283

MATHIESEN, KENNETH MARLIN FP /A L
960 PLATEAU ST. 38 38 39
BRYSON CITY 28713
LOMA LINDA U 704 488-6844

MITCHELL, WILLIAM E. GS /GP AC
P. O. BOX 760 45 50 50
BRYSON CITY 28713
U OF TENNESSEE 704 488-2283

88. TRANSYLVANIA COMPONENT SOCIETY

OFFICERS—**President:** Ora J. Wells, M.D., 103 Pine St., Brevard 28712
Secretary: Sam Brandt, M.D., P.O. Box 548, Rosman 28712
Executive Secretary: Donna Franks, P.O. Box 1116, Brevard 28712 (704 884-9111)

CHRISTIANSON, DANA J. OPH AC
102 WATER OAK SUITES 81 85 87
BREVARD 28712
VANDERBILT U 704 884-7320

COLLINGS, GILBEART H., JR. OM /PM AC
5533 NATOMA DR. 41 41 86
FT. MYERS, FL 33907
EMORY U 704 885-2854

DUNKELBERG, RAY HAMILTON IM /NEP AC
NEWLAND MED. BLDG. 67 67 76
BREVARD 28712
MED U OF SC 704 884-9030

DUVALL, PAUL BRANDON FP AC
NEWLAND MED. BLDG. 80 80 77
GALLIMORE ROAD
BREVARD 28712
U OF NC 704 884-9030

FOLGER, JOHN RUSSELL, JR. FP /PH AC
207 E. MAIN ST. 53 53 57
BREVARD 28712
BOWMAN GRAY 704 966-9633

GASQUE, MAC ROY OM /PH L
5 FORTUNE COVE RD. 44 47 47
BREVARD 28712
U OF VIRGINIA 704 884-2503

HAWK, ROBERT JOE OBG AC
1220 ASHEVILLE HIGHWAY 65 65 79
BREVARD 28712
EMORY U 704 883-8115

HENDEL, ROBERT CHARLES GS AC
MEDICAL PARK DR., BLDG #1 72 73 85
BREVARD 28712
U OF CONNECTICUT 704 884-2198

LEFLER, CHARLES IM AC
WATER OAKES SUITES 70 70 85
BREVARD 28782
U OF NC 704 884-4134

NEWLAND, CHARLES LOGAN FP L/RT
104 WOODSIDE DR. 27 28 32
BREVARD 28712
MED COLL OF VA 704 883-2156

RYAN, ALBERT OLEN, JR. OM AC
P. O. BOX 200 47 61 62
PISGAH FOREST 28768
U OF CINCINNATI 704 877-2806

SANDERS, JAMES HENRY, JR. FP /GER AC
P. O. BOX 389 51 52 53
BREVARD 28712
MED U OF SC 704 884-9362

TYSON, JAMES WILLIAM FP AC
NEWLAND MEDICAL BUILDING 66 68 70
BREVARD 28712
U OF TEXAS 704 884-9030

WELLS, MARIUS HUGHEY GS AC
NEWLAND MED. BLDG. 52 53 59
11 GALLIMORE RD.
BREVARD 28712
MED U OF SC 704 884-9030

90. UNION COMPONENT SOCIETY

OFFICERS—**President:** John Vick, M.D., 808 Circle Dr., Monroe 28110 (704 289-5443)
Secretary: Paul N. Erckman, M.D., 1307-B. E. Franklin St., Monroe 28110 (704 283-1515)

ABDA, SANDRA MARIE ORS AC
701 ROOSEVELT BLVD., BLDG 600 73 74 79
MONROE 28110
MED COLL OF PENN 704 289-4595

AUSTIN, ROBERT GRAY, JR. OPH AC
1410 FRANKLIN ST., EAST 70 70 77
MONROE 28110
BOWMAN GRAY 704 289-5455

BARRINGER, PHIL LOUIS GS L
P. O. BOX 968 42 42 46
MONROE 28110
JEFFERSON 704 283-2738

BOWER, EDWARD BIRCH GS AC
900 SUNSET DR. 70 71 77
MONROE 28110
JEFFERSON 704 289-2561

CATTIE, JOHN VINCENT GS /CDS AC
106 E. PHIFER STREET 74 75 83
MONROE 28110
JEFFERSON 704 289-8528

COOK, DONALD EUGENE, JR. FP AC
808 CIRCLE DR. 81 83 84
UNION FAMILY PRACTICE, PA
MONROE 28110
BOWMAN GRAY 704 289-5443

90. UNION COMPONENT SOCIETY (Continued)

DESKINS, WILLIAM CYPHERS FP AC
1420 E. FRANKLIN ST. 62 62 66
MONROE 28110
BOWMAN GRAY 704 289-8427

ELBER, ERWIN RICHARD OTO AC
1501 E. FRANKLIN STREET 69 70 79
MONROE 28110
TUFTS U 704 289-9415

EVANS, DAVID ARNOLD OBG AC
1408 E. FRANKLIN ST. 67 67 72
MONROE 28110
U OF NC 704 289-2553

FRIEDRICH, THOMAS CHARLES ORS AC
1104 OAK HILL DR. 79 79 86
MONROE 28110
INDIANA U 704 289-4595

GREENBERG, WILLIAM ROGER AN AC
P. O. BOX 2188 71 71 83
MONROE 28110
U OF TEXAS 704 289-3247

GREENE, JOSEPH ELMO GP /OM AC
303 OLD HIGHWAY 74 49 61 62
MARSHVILLE 28103
MED COLL OF GA 704 624-2125

GREENE, PHILLIP GP AC
603 E. ROOSEVELT BLVD. 82 82 86
MONROE 28110
MED U OF SC 704 283-8193

HAMER, EUGENE FLOYD GP L
P. O. BOX 608 41 41 46
MONROE 28110
MED U OF SC 704 283-1553

HARTNESS, JOHN FREDERICK, JR. IM /EM AC
1307 DOVE STREET 70 70 80
MONROE 28110
U OF NC 704 289-6474

IPAPO, VIRGILIO SORIANO GS /VS AC
1309 E. FRANKLIN ST. 71 71 86
MONROE 28110
U OF SANTO TOMAS 704 289-3024

JEWELL, GARY WELCH OBG AC
1408 FRANKLIN STREET 71 74 77
MONROE 28110
U OF LOUISVILLE 704 289-2553

KING, JOSEPH JOHN, JR. ORS AC
701 ROOSEVELT BLVD., BLDG.600 73 73 84
MONROE 28110
JEFFERSON 704 289-4595

KITCHIN, ALVIN PAUL, JR. FP AC
1404 E. FRANKLIN STREET 62 62 67
MONROE 28110
BOWMAN GRAY 704 289-8724

LEE, FRANCIS BROWN GS L/RT
501 S. CHURCH ST. 43 51 52
PO BOX 457
MONROE 28110
MED COLL OF VA 704 283-4324

MACDONALD, DONALD EWAN P AC
1310 MCCRAY STREET 48 53 54
MONROE 28110
U OF ST ANDREWS 704 289-5431

OLEEN, GEORGE GERHARD FP /IM L
103 S. HAYNE STREET 39 46 48
MONROE 28110
U OF KANSAS 704 283-6622

ORMAND, THOMAN LANE OBG AC
1408 E. FRANKLIN ST. 58 58 64
MONROE 28110
U OF NC 704 289-2553

RUSSELL, DAVID NORMAN AC
MARSHVILLE MED. CTR. 80 81 80
OLD HIGHWAY 74
MARSHVILLE 28103
U OF NC 704 624-6688

SALVAGGIO, MARK ANTHONY GS /VS AC
900 SUNSET DR. 80 80 86
MONROE 28110
HAHNEMANN 704 289-2561

SNYDER, ALEXANDER BENJAMIN IM AC
1420 E. FRANKLIN ST. 65 65 77
MONROE 28110
ALBANY MED COLL 704 289-8427

SOWDEN, RICHARD GUY U AC
1503 E. FRANKLIN STREET 70 72 79
MONROE 28110
JEFFERSON 704 289-5402

STEWART, FRANCIS ASBURY FP AC
102 E. MARSHVILLE BLVD. 55 55 56
MARSHVILLE 28103
U OF NC 704 624-5889

TAYLOR, JIMMY LYNN FP AC
BOX 989 62 62 66
MONROE 28110
BOWMAN GRAY 704 283-1521

TAYLOR, RICHARD ALLEN PD AC
901 OAK FOREST DRIVE 69 69 74
MONROE 28110
BOWMAN GRAY 704 289-2556

WALDMAN, GARY DAVID D AC
1307 E. FRANKLIN ST. 77 78 83
MONROE 28110
RUSH MED COLL 704 289-9448

91. VANCE COMPONENT SOCIETY

OFFICERS—**President:** W. Beverly Tucker, M.D., Ruin Creek Rd., Henderson 27356 (919 492-3152)
Secretary: Millard W. Wester, Jr., M.D., Vance Med. Arts Bldg., Ste. A, Henderson 27356 (919 492-3152)

BERNSTEIN, DANIEL OPH AC
MEDICAL SERVICE BLDG. 68 69 77
RUIN CREEK ROAD
HENDERSON 27536
WAYNE STATE U 919 492-8021

BOYD, JOSEPH ALSTON, JR. R L/RT
1909 PARKER LANE 45 51 52
HENDERSON 27536
MED COLL OF VA

BURWELL, WALTER BRODIE IM L
317 ORANGE STREET 41 45 46
HENDERSON 27536
TULANE U 919 438-5619

CALLAHAN, JOSEPH BRODHEAD OBG AC
MEDICAL ARTS BUILDING 68 75 76
HENDERSON 27536
U OF PITTSBURGH 919 492-8576

CATHCART, CORNELIUS FITZHAROLD PD AC
MARIA PARHAM HOSPITAL 76 76 83
HENDERSON 27536
U OF NC 919 492-9565

CHARLTON, LEI SHERRIE IM AC
HEALTHCO INC. 81 83 87
PO BOX 425
MANSON 27553
MEHARRY MED COLL 919 456-2181

DRAKE, WILTON RODWELL, JR. FP AC
VANCE MEDICAL ARTS CENTER 72 72 76
HENDERSON 27536
U OF NC 919 492-3152

GOODWIN, JAMES OSCAR OBG AC
MEDICAL ARTS BUILDING 70 70 76
RUIN CREEK ROAD
HENDERSON 27536
U OF NC 919 492-8576

GREEN, JAMES PRESTON FP AC
176 BECKFORD DRIVE 55 59 65
HENDERSON 27536
MEHARRY MED COLL 919 492-2161

HOLT, JAMES DAVID FP AC
308 WILCOX ST. 82 82 87
WARRENTON 27589
U OF MARYLAND 919 257-3141

HOLT, THOMAS OPH /OTO L
209 FAIRVIEW STREET 38 38 48
WARRENTON 27589
MED COLL OF VA 919 257-3746

JONES, HARVEY MICHAEL PTH /CLP AC
ROUTE #3, BOX 25W 66 66 76
HENDERSON 27536
WASHINGTON U 919 492-4477

KAPLOWITZ, GARY L. ORS AC
RUIN CREEK ROAD 78 79 84
MEDICAL SERVICE BLDG.
HENDERSON 27536
AUTONOMA U 919 438-3186

MAYO, JOSEPH DIXON, JR. FP AC
MEDICAL SERVICES BLDG. 49 49 50
RUIN CREEK RD.
HENDERSON 27536
U OF PENN 919 438-3155

MCCASKILL, SAMUEL GAULT, JR. OBG AC
RUIN CREEK ROAD 73 73 84
HENDERSON 27536
BAYLOR 919 492-8576

MEADOR, PHILIP D., JR. D AC
MEDICAL SERVICE BLDG. 71 71 86
RUIN CREEK ROAD
HENDERSON 27536
U OF NC 919 492-2123

MILLS, JOHN FRANKLIN FP AC
RUIN CREEK ROAD 82 84 85
HENDERSON 27536
BOWMAN GRAY 919 492-3152

MILLS, RANDOLPH DENNIS FP AC
RUIN CREEK RD. 51 51 52
MEDICAL ARTS CTR.
HENDERSON 27536
BOWMAN GRAY 919 492-3152

PARHAM, SUMNER MALONE GYN /OBS L/RT
973 MEADOW LANE 45 45 52
HENDERSON 27536
U OF MARYLAND 919 438-3751

PETROU, HOMER DONALD GS AC
RUIN CREEK ROAD 58 58 75
HENDERSON 27536
U OF CINCINNATI 919 438-5755

REDDY, PUTLUR RAMACHANDRA IM /ON AC
MEDICAL ARTS BUILDING 62 72 77
RUIN CREEK ROAD
HENDERSON 27536
OSMANIA MED COLL 919 492-6127

RENNICK, JOHN H., JR. FP AC
PO BOX 425 82 83 87
MANSON 27553
U OF NC 919 456-2181

ROLLINS, CHARLES DICK GP L
507 GRANITE STREET 35 35 39
HENDERSON 27536
U OF PENN 919 438-7263

SMITH, BERNARD MICHAEL VS /GS AC
VANCE MEDICAL ARTS BLDG. 74 76 86
RUIN CREEK ROAD
HENDERSON 27536
U OF KENTUCKY 919 438-2070

TUCKER, GEORGE REGINALD, JR. FP AC
RUIN CREEK RD. STE. A 55 55 59
HENDERSON 27536
U OF NC 919 492-3152

TUCKER, WILLIAM BEVERLY FP AC
RUIN CREEK ROAD 66 66 71
HENDERSON 27536
U OF NC 919 492-3152

VIJAYA, LINGA U AC
RUIN CREEK ROAD 61 61 77
HENDERSON 27536
ANDHIA MED COLL 919 492-8711

WESTER, MILLARD WINSTON, JR. FP AC
VANCE MED. ARTS BLDG. #A 52 52 54
HENDERSON 27536
DUKE 919 492-3152

92. WAKE COMPONENT SOCIETY

OFFICERS—**President:** Leon F. Woodruff, Jr., M.D., 2800 Blue Ridge Rd., #512, Raleigh 27607 (919 781-5510)
Secretary: Frederick C. Heaton, M.D., 3805 Computer Dr., Raleigh 27609 (919 781-6200)
Executive Secretary: Annette Boutwell, P.O. Box 10387, Raleigh 27605 (919 821-2226)

ADELMAN, RICHARD D. FP AC
7320 SIX FORKS RD. STE. 260 75 76 86
RALEIGH 27615
NORTHWESTERN U 919 846-9292

AHMAD, WAHAJ DIN N /IM AC
121 EDINBURGH SOUTH, STE. 210 57 57 74
CARY 27511
KING EDWARD COLL 919 469-2010

ALDERMAN, ALLISON M., JR. FP AC
242 BRYAN BLDG. 46 47 52
CAMERON VILLAGE
RALEIGH 27605
BOWMAN GRAY 919 832-1205

ALLEN, CYRIL ANTHONY IM /HEM AC
P. O. BOX 14005 74 76 80
RALEIGH 27620
U OF NC 919 828-3466

ALLEN, LEROY NS AC
3009 NEW BERN AVE. 46 47 55
PO BOX 14027
RALEIGH 27620
BOWMAN GRAY 919 832-4448

ALLEN, LOUIS DAVID PD AC
3001 ESSEX CIRCLE 78 81 84
RALEIGH 27608
MED COLL OF GA 919 782-0021

ALLEN, ROBERT LEE NS AC
3009 NEW BERN AVE. 79 79 85
PO BOX 14027
RALEIGH 27620
BOWMAN GRAY 919 832-4448

ANDREW, WALLACE F., JR. ORS /HS AC
3515 GLENWOOD AVE. 75 81 82
PO BOX 10707
RALEIGH 27605
U OF VIRGINIA 919 781-5600

ANDRUS, THOMAS ROSS, JR. D AC
6104 VALLEY FIELD CIRCLE 78 82 76
RALEIGH 27612
U OF NC 919 782-3782

ARANA, GUILLERMO FERNANDO FP /PTH AC
975 WALNUT ST., STE. 255 62 63 75
CARY 27511
U OF SAN SIMON 919 467-4141

ARCHIE, JOSEPH PATRICK, JR. CDS AC
3020 NEW BERN AVE. #560 68 68 82
RALEIGH 27610
U OF NC 919 781-5335

ASHBURN, PHILIP EUGENE IM /GE AC
3100 BLUE RIDGE RD. #300 74 74 78
RALEIGH 27612
BOWMAN GRAY 919 781-7500

ASKEW, ANNE PRESTON PD AC
4016 BARRETT DR., STE. 101 56 56 65
RALEIGH 27609
DUKE 919 781-2438

ATKINSON, ALVAN WILLIAM CDS /TS AC
3400 EXECUTIVE DR. STE. 102 71 74 80
RALEIGH 27609
JEFFERSON 919 872-8080

AUMAN, GEORGE LOUIS PD AC
3900 BROWNING PLACE 68 68 73
RALEIGH 27609
BOWMAN GRAY 919 787-0266

AVERY, FRANK WALTON PTH AC
RALEIGH COMMUNITY HOSP. 67 67 74
PO BOX 28280
RALEIGH 27611
U OF NC 919 872-4800

BAKER, JOHN HARRISON OBG AC
WILLIAMSBURG, VA 0000 74 74 79
U OF NC

BALOCH, MOHAMMAD HAROON FP AC
2800 BLUE RIDGE BLVD. STE. 402 70 70 82
RALEIGH 27607
KING EDWARD COLL 919 787-0486

BARISH, CHARLES FRANKLIN IM /GE AC
3100 BLUE RIDGE RD., STE. 300 80 81 85
RALEIGH 27612
U OF FLORIDA 919 748-4601

BARRICK, HARRY W., JR. FP AC
1900 HIGHLAND PL. 57 57 59
RALEIGH 27607
DUKE 919 787-4429

BARRINGER, THAD JONES P AC
3900 BROWNING PL., STE. 201 53 57 59
RALEIGH 27609
VANDERBILT U 919 787-7125

BARRINGER, THADDEUS JONES, JR. P AC
3900 BROWNING PL., STE. 201 78 78 83
RALEIGH 27609
TULANE U 919 787-7125

BARTELS, GEORGE THOMAS FP /NTR AC
1201 AVERSBORO ROAD 78 80 80
GARNER 27529
DUKE 919 779-6330

BATTLE, CONSTANCE Y. OBG AC
3613 HAWORTH DR. 82 86 87
RALEIGH 27609
U OF MIAMI 919 781-5550

BECK, PAUL GER /IM AC
VIRGINIA MASON CLINIC 61 62 81
1100 NINTH AVE.
SEATTLE, WA 98101
U OF COLORADO 206 223-6707

BECKER, DENIS I. END /IM AC
3410 EXECUTIVE DR., SUITE 205 72 72 77
RALEIGH 27609
U OF KENTUCKY 919 876-7692

BELLAMY, WILLIAM EDWARD, JR. IM /PUD AC
3101 ESSEX CIRCLE 47 48 60
RALEIGH 27608
BOWMAN GRAY 919 782-2631

BENSEN, VLADIMIR BASIL FP /GS L
422 ST.MARY'S STREET 46 49 49
RALEIGH 27605
NEW YORK MED COL 919 832-6855

BENSON, JOHN DEWITT PTH AC
4420 LAKE BOONE TRAIL 78 79 82
RALEIGH 27607
U OF NC 919 755-3040

BERRY, WILLIAM ROSSER ON /HEM AC
PO BOX 30098 74 78 79
RALEIGH HEM/ONCOLOGY CLI.
RALEIGH 27622
DUKE 919 781-7070

BETHEL, MILLARD BAIMBRIDGE PH L/RT
25 BANBURY LANE 36 36 39
CHAPEL HILL 27514
U OF TENNESSEE 919 929-5606

BETTS, WILMER CONRAD P AC
3125 GLENWOOD PROF. VILLAGE 48 50 56
RALEIGH 27608
DUKE 919 782-0166

BILBRO, ROBERT HODGES IM /CD AC
3521 HAWORTH DR. 66 66 72
RALEIGH 27609
U OF NC 919 782-1806

BISHOP, JOHN MASON, JR. OBG AC
2800 BLUE RIDGE BLVD. STE. 206 57 61 61
RALEIGH 27607
MED COLL OF VA 919 781-7450

BLACKLEY, ROY JACKSON P /GPM AC
325 N. SALISBURY STREET 53 53 54
RALEIGH 27611
MCGILL U 919 733-4506

BLAKE, GERALD WAYNE IM /ID AC
3521 HAWORTH DR. 67 67 75
RALEIGH 27609
U OF NC 919 782-1806

BLUMENTHAL, BARRY HOWARD P AC
3125 GLENWOOD PROF. VILLAGE 81 83 85
RALEIGH 27608
MED COLL OF VA 919 782-0166

BOARD, ROBERT JEFFREY OPH AC
3320 EXECUTIVE DR. STE. 111 74 77 84
RALEIGH 27609
DUKE 919 876-2427

BOERNER, DAVID FRANKLIN IM /PUD AC
3100 BLUE RIDGE RD.STE. 300 76 76 81
RALEIGH 27612
PENN STATE U 919 781-7500

BOLDING, WILLIAM ROBERT AN AC
2032 THORPSHIRE DR. 81 83 80
RALEIGH 27609
U OF NC 919 755-8000

BOONE, STEPHEN CHRISTOPHER NS /EM AC
3009 NEW BERN AVE. 65 65 78
PO BOX 14027
RALEIGH 27620
DUKE 919 832-4448

BOSSE, HELEN HALL AN AC
P. O. BOX 10502 50 53 55
RALEIGH 27605
MED COLL OF VA 919 733-2732

BRADSHAW, PRESTON HATCHER, JR. U AC
1200 KERSHAW DR. 60 60 67
RALEIGH 27609
DUKE 919 876-4323

BRANAMAN, GUY HEWITT, JR. GYN L/RT
915 WILLIAMSON DR. 39 47 47
RALEIGH 27608
MED COLL OF VA 919 833-4080

BRASHEAR, RALPH GUY FP AC
P. O. BOX 827 60 61 61
WENDELL 27591
OHIO STATE U 919 365-7366

BRITT, BENJAMIN EARL P AC
1004 DRESSER COURT, STE. 108 55 55 60
RALEIGH 27609
DUKE 919 876-0287

BROWN, DANIEL ELMER PD AC
3001 ESSEX CIRCLE 65 65 70
RALEIGH 27608
U OF NC 919 782-0021

BRUGGERS, BARRY ALAN OBG AC
121 EDINBURGH SOUTH, #103 79 80 84
CARY 27511
LA STATE U 919 467-5941

BUCHIN, DAVID LEE EM /P AC
14212 CROSS CREEK ROAD 66 67 81
RALEIGH 27614
ST U OF NY-BUFF 919 876-8333

BUGG, CHARLES PAULETT PD AC
DIV. OF SOCIAL SERVICE-DDS 51 51 57
PO BOX 243
RALEIGH 27602
JOHNS HOPKINS 919 733-4484

BURROUGHS, FREDERICK DOUGLAS PD AC
100 SUNNYBROOK ROAD, STE. 202 66 69 75
RALEIGH 27610
MEHARRY MED COLL 919 821-3180

BURROUGHS, PAUL LEACH, JR. ORS AC
3410 EXECUTIVE DRIVE 66 66 71
RALEIGH 27609
U OF NC 919 872-5296

BURROUGHS, RUTH REUBEN PH /PD RT
6413 MARGATE COURT 37 37 69
RALEIGH 27612
U OF NEBRASKA 919 781-5015

BURTON, EARL EDWARD, JR. D /IM AC
3900 BROWNING PLACE 68 70 73
RALEIGH 27609
MED COLL OF VA 919 782-2735

BURTON, LEROY MELVIN IM AC
100 SUNNYBROOK 69 69 77
RALEIGH 27610
MEHARRY MED COLL 919 821-1710

BYRUM, CLIFFORD CONWELL GYN L
2800 BLUE RIDGE RD., STE. 301 43 43 46
RALEIGH 27607
JEFFERSON 919 782-0124

CAMP, THOMAS FRANCIS, JR. IM /CD AC
2800 BLUE RIDGE, STE. 205 62 62 69
RALEIGH 27607
EMORY U 919 782-0414

92. WAKE COMPONENT SOCIETY (Continued)

CAMPBELL, DONALD BARNES IM AC
3100 BLUE RIDGE RD. 71 72 76
RALEIGH 27612
U OF ALABAMA 919 781-7500

CANNON, WOODWARD GS AC
2800 BLUE RIDGE BLVD. STE. 305 70 72 78
RALEIGH 27607
HARVARD 919 781-7416

CARBONELL, ANTONIO MIGUEL PS AC
3320 EXECUTIVE DR. STE. 222 69 70 85
RALEIGH 27609
GEORGETOWN U

CARR, MARJORIE BARNWELL PD AC
2800 BLUE RIDGE BLVD.,STE. 501 76 76 73
RALEIGH 27607
U OF NC 919 781-7490

CASTELLOE, THOMAS EDISON ORS AC
P. O. BOX 10707 56 56 61
RALEIGH 27605
U OF NC 919 781-5600

CAVANAUGH, PATRICK JOSEPH TR AC
4420 LAKE BOONE TRAIL 51 51 71
RALEIGH 27607
ST LOUIS U 919 783-3018

CAVINESS, VERNE STRUDWICK CD /IM L/RT
913 VANCE STREET 21 21 26
RALEIGH 27608
JEFFERSON 919 832-4258

CELLA, JOHN ROBERT R AC
P. O. BOX 19509 64 64 70
RALEIGH 27619
U OF NC 919 833-1407

CHAMBLEE, HUBERT ROYSTER, JR. OPH AC
20 ENTERPRISE STREET 60 60 67
RALEIGH 27607
DUKE 919 829-1948

CHARLTON, OLIVER PATRICK DR AC
4420 LAKE BOONE TRAIL 54 77 77
RALEIGH 27607
U-WITWATERSRAND 919 755-3023

CHASSON, ALBERT LEON PTH AC
REX HOSPITAL 54 62 62
RALEIGH 27607
U OF CINCINNATI 919 755-3058

CHATTERJEE, BENU IM AC
4940-C NORTH BLVD. 80 84 85
RALEIGH 27604
MYSORE U 919 878-3838

CHAUDHRY, ABDUL GHAFOOR CDS /GS AC
2800 BLUE RIDGE BLVD. STE. 306 70 70 82
RALEIGH 27607
KING EDWARD COLL 919 782-7900

CHEELY, GEORGE RAYBURN CD /IM AC
3020 NEW BERN AVE., STE. 420 74 77 79
RALEIGH 27610
U OF PENN 919 781-7557

CHIARAMONTI, ALEXANDER D AC
101 CARY PKWY. SW, #210 76 76 77
CARY DERMATOLOGY CTR.
CARY 27511
U OF MICHIGAN 919 467-8556

CHIAVETTA, STEPHEN VICTOR PTH /HEM AC
4420 LAKE BOONE TRAIL 69 70 77
RALEIGH 27607
M C OF WISCONSIN 919 755-3040

CLINE, WILLIAM TUCKER GS /CDS AC
3400 EXECUTIVE DRIVE 78 79 83
RALEIGH 27609
DUKE 919 876-2732

COFFER, BERTRAM WATTS AN AC
P.O. BOX 18139 69 69 76
2800 BLUE RIDGE RD. STE. 204
RALEIGH 27619
U OF NC 919 781-7420

COLLMAN, MITCHELL SCOTT CD /IM AC
PO BOX 17569 79 80 84
RALEIGH 27619
ALBANY MED COLL 919 783-5273

COLSON, LACY ALSTON IM /FP AC
23-G SUNNYBROOK ROAD 72 73 81
RALEIGH 27610
HOWARD U 919 821-5201

COMBS, JOSEPH JOHN IM /PUD L/RT
335 SPRINGMOOR DR. 26 26 29
RALEIGH 27615
COLUMBIA U 919 848-7335

COOK, CHARLES ALVIN NEP /IM AC
1108 DRESSER COURT 75 77 82
RALEIGH 27609
TUFTS U 919 872-8550

COPELAND, DANA DERWARD PTH AC
10004 GRADY CIRCLE 72 73 79
RALEIGH 27609
DUKE 919 755-8260

CORNWALL, THOMAS PAUL PYA /CHP AC
2501 NORTH ST., STE. 330 70 72 83
RALEIGH 27607
NORTHWESTERN U 919 782-4954

CORPENING, ALBERT NEWTON FP AC
141 E. MAIN ST. 55 55 58
PO BOX 158
YOUNGSVILLE 27596
BOWMAN GRAY 919 556-2126

COURIE, MAURICE NICKOLA GYN AC
3145 ESSEX CIRCLE 59 59 66
RALEIGH 27608
DUKE 919 782-3698

COVINGTON, CONNELL PD /GP AC
100 SUNNYBROOK RD. STE. 202 76 78 79
RALEIGH 27610
U OF NC 919 821-3180

COXE, JAMES SHERWOOD, III END /IM AC
3410 EXECUTIVE DRIVE 71 71 79
RALEIGH 27609
U OF NC 919 876-7692

CRITTENDEN, SUSAN LAWRENCE IM AC
103 BAINES CT. 81 82 86
CARY 27511
U OF NC 919 467-6125

CURRIN, JOE BADGETT, JR. IM AC
500 N. ENNIS STREET 61 61 65
FUQUAY-VARINA 27526
BOWMAN GRAY 919 552-2275

DAMERON, THOMAS BARKER, JR. ORS AC
P. O. BOX 10707 47 53 54
RALEIGH 27605
DUKE 919 781-5600

DANIEL, THOMAS BRANTLEY U L/RT
110 SELMA RD. 43 43 52
PO BOX 845
WENDELL 27591
BOWMAN GRAY 919 365-5550

DANIEL, WALTER EUGENE AN AC
312 BUNCOMBE STREET 79 79 76
RALEIGH 27609
U OF NC 919 832-7988

DASCOMB, HARRY EMERSON IM /ID AC
3000 NEW BERN AVENUE 43 43 81
RALEIGH 27610
U OF ROCHESTER 919 755-8520

DAVIDIAN, VARTAN AMBAR, JR. PS /GS AC
1112 DRESSER COURT 67 67 75
RALEIGH 27609
U OF NC 919 872-2616

DAVIS, ARTHUR EMERSON, JR. PTH /A AC
1209 COWPER DRIVE 53 62 63
RALEIGH 27608
U OF MINN 919 833-9839

DAVIS, DWIGHT GROOME, JR. GS /TS AC
5825 MAPLE RIDGE RD. 54 61 61
RALEIGH 27609
JEFFERSON 919 876-3671

DAVIS, JAMES HOWELL CDS /TS AC
2800 BLUE RIDGE BLVD., STE 306 54 65 66
RALEIGH 27607
U OF KANSAS 919 782-7900

DEBNAM, GEORGE CLYDE GP /OBS AC
524 S. BLOUNT STREET 51 51 71
RALEIGH 27601
MEHARRY MED COLL 919 832-1667

DELEON, ROSEMARY ESPINO AN AC
2903 ADRIAN COURT 61 61 78
RALEIGH 27604
FAR EAST U 919 829-9550

DEMARIA, WILLIAM JOHN PD AC
PO BOX 2291 48 50 6
DURHAM 27702
DUKE 919 493-825

DETWEILER, DONALD GENE DR AC
2017 LANDINGS WAY 78 80 8
RALEIGH 27615
EMORY U 919 783-302

†DEWAR, WILLIAM BANKS IM L
C/O J. HOPKINS 20 20 2
DECEASED-5-3-87
ROCKY MOUNT, VA 24151
U OF PENN 703 483-946

DIAB, ALBERT JOSEPH IM AC
3801 COMPUTER DRIVE 54 54 5
RALEIGH 27609
U OF NC 919 787-521

DORFMAN, MARGARET JEANNE P AC
DOROTHEA DIX HOSP.-PSY. 77 81 8
RALEIGH 27611
TUFTS U 919 733-991

DUNLAP, WILLIAM MARSHALL ON /IM AC
3521 HAWORTH DR. 65 65 7
RALEIGH 27609
DUKE 919 782-180

DURFEE, MICHAEL FULK ADL /PD AC
WAKE TEEN MEDICAL SERVICES 63 63 7
619 OBERLIN RD.
RALEIGH 27605
U OF VIRGINIA 919 828-003

EASTWOOD, FREDERICK THOMAS PD L/R
P. O. BOX 30203 44 51 5
RALEIGH 27622
TEMPLE U 919 787-196

EDMUNDSON, WARNER L. WELLS IM A
3900 BROWNING PLACE 80 80 7
RALEIGH 27609
U OF NC 919 781-965

EDWARDS, ELMO STEPHEN PD AC
2800 BLUE RIDGE BLVD.,STE. 501 63 63 6
RALEIGH 27607
DUKE 919 781-749

EDWARDS, GEORGE S., JR. HS /ORS AC
3410 EXECUTIVE DR. 78 79 8
RALEIGH 27609
U OF NC 919 872-529

EDWARDS, GEORGE SADLER, SR. ORS AC
3410 EXECUTIVE DRIVE 57 57 6
RALEIGH 27609
U OF NC 919 872-529

EDWARDS, JAMES RONALD PTH AC
ROUTE #7, BOX 210-E 58 58 7
RALEIGH 27614
U OF NC 919 755-826

EGERTON, COURTNEY DAVID GYN AC
P. O. BOX 18568 46 47 5
RALEIGH 27619
U OF LOUISVILLE 919 782-127

EMERY, DARYL CHARLES IM /CD AC
1212 CEDARHURST DR. 81 82 8
RALEIGH 27615
BOWMAN GRAY 919 872-485

EPNER, RONALD ALAN ORS /HS AC
101 S.W. CARY PARKWAY 76 81 8
CARY 27511
CORNELL U 919 467-499

ESHELMAN, THOMAS CARL R AC
8512 BOURNEMOUTH DR. 67 68 7
RALEIGH 27615
BOWMAN GRAY 919 755-302

EURE, CHARLES ALLAN IM AC
3521 HAWORTH DR. 67 67 7
RALEIGH 27609
U OF NC 919 782-180

EVANS, WALLACE NICKLES, II FP AC
121 EDINBURGH SOUTH, STE. 100 73 73 7
CARY 27511
U OF ALABAMA 919 467-328

EYSTER, JAMES M. DR AC
1028 WASHINGTON ST. 80 80 8
PO BOX 10956
RALEIGH 27605
INDIANA U 919 834-873

92. WAKE COMPONENT SOCIETY (Continued)

AJGENBAUM, DAVID MONIEK ORS AC
3410 EXECUTIVE DRIVE 75 75 80
RALEIGH 27619
TULANE U 919 872-5296

ARLEY, WILLIAM WINFREE PD AC
3814 BROWNING PLACE 43 47 52
RALEIGH 27609
MED COLL OF VA 919 782-8326

ARMER, JOHN LOVELACE, JR. D AC
231 BRYAN BUILDING 55 55 62
RALEIGH 27605
DUKE 919 828-0288

ERDON, BENJAMIN BETHEA IM AC
3100 BLUE RIDGE BLVD.,#300 62 62 69
RALEIGH 27612
TULANE U 919 781-7500

LEMING, PAUL ARTHUR GYN /PYM AC
3613 HAWORTH DR. 55 60 61
RALEIGH 27609
U OF UTRECHT 919 781-5550

LEMING, ROBERT HENRY PD AC
2800 BLUE RIDGE BLVD.,STE 501 60 60 64
RALEIGH 27607
BOWMAN GRAY 919 781-7490

ORTIER, KENNETH JOSEPH OBG AC
2800 BLUE RIDGE BLVD. STE. 502 76 76 85
RALEIGH 27607
DARTMOUTH U 919 781-5513

OSTER, WILLIAM WADE OPH AC
3320 EXECUTIVE DR., STE. 111 72 72 76
RALEIGH 27609
BOWMAN GRAY 919 876-2427

OX, POWELL GRAHAM, JR. U AC
3320 WAKE FOREST RD. STE. 100 52 59 60
PO BOX 17908
RALEIGH 27609
MED COLL OF VA 919 790-0036

RANKLIN, EARL RUFFIN PD AC
3803-A COMPUTER DR. 73 75 76
RALEIGH 27609
U OF NC 919 782-5273

REEDMAN, STEVEN MITCHELL N AC
PO BOX 40999 72 72 80
RALEIGH 27629
U OF PENN 919 782-3456

REEMAN, DOUGLAS G., JR. RHU /AI AC
3831 MERTON DRIVE 68 68 77
RALEIGH 27609
DUKE 919 781-9633

RIEDLAND, BETH ROSENTHAL OPH /PA AC
10 PARK PLAZA,STE. 3 79 80 85
PO BOX 12765
RESEARCH TRIANGLE PK 27709
U OF FLORIDA 919 549-9135

ULGHUM, JAMES SPENCER, III NS AC
3009 NEW BERN AVE. 71 71 77
PO BOX 14027
RALEIGH 27610
U OF NC 919 832-4448

ULGHUM, MARY SUSAN KIRK GYN AC
100 S. BOYLAN AVENUE 71 71 77
RALEIGH 27603
U OF NC 919 832-5529

ADA, PRESTON HERBERT GS /TS AC
2800 BLUE RIDGE BOULEVARD 63 68 68
RALEIGH 27607
MED COLL OF VA 919 781-7412

ADDY, ROBERT EDWIN, JR. IM /CD AC
3900 BROWNING PLACE 59 59 59
RALEIGH 27609
DUKE 919 781-9650

ALLOWAY, JAMES HERVEY FP L/RT
2617 ROYSTER ROAD 50 50 53
RALEIGH 27608
U OF PENN 919 781-7547

ARRABRANT, EDGAR CORNELIUS OTO AC
3010 ANDERSON DR. 66 66 74
PO BOX 18946
RALEIGH 27619
U OF NC 919 787-7171

ARSIDE, WILLIAM BLAKE PS AC
1112 DRESSER COURT 64 64 74
RALEIGH 27609
ST LOUIS U 919 872-2616

GASKIN, LEWIS JAMES AN AC
P. O. BOX 18139 58 61 61
RALEIGH 27619
EMORY U 919 781-7420

GINN, WILLIAM M. , JR. CD /IM AC
2800 BLUE RIDGE, STE. 205 59 59 66
RALEIGH 27607
U OF NC 919 782-0414

GOFF, DAVID ALBERT IM /PD AC
7202 FALLS OF NEUSE RD. 81 82 78
RALEIGH 27615
U OF NC 919 848-9911

GOLDMAN, ALAN LAWRENCE PD AC
2800 BLUE RIDGE BLVD.,STE. 501 63 63 71
RALEIGH 27607
WASHINGTON U 919 781-7490

GOLDSTON, WILLIAM ROBERT OBG AC
2800 BLUE RIDGE BLVD.,STE.207 63 63 73
RALEIGH 27607
DUKE 919 781-5510

GOODSON, JOHN PHILLIP GS AC
3814 BROWNING PLACE 63 63 75
RALEIGH 27609
U OF NC 919 781-0710

GRANOVETTER, DAVID ALAN RHU /AI AC
3831 MERTON DRIVE 74 77 79
RALEIGH 27609
YALE 919 781-9633

GRANT, GEORGE REDD, JR. IM AC
3101 ESSEX CIRCLE 63 63 69
RALEIGH 27608
DUKE 919 782-2631

GRANT, HUGH JUDD, JR. OBG AC
100 S. BOYLAN AVENUE 69 69 75
RALEIGH 27603
U OF NC 919 832-5529

GREEN, JULIUS ALPHEUS, JR. R AC
P. O. BOX 19366 57 57 64
RALEIGH 27609
U OF NC 919 787-8221

GREER, THOMAS BYWATER OBG AC
P. O. BOX 18568 54 54 61
RALEIGH 27619
BOWMAN GRAY 919 782-1273

GROCE, JAMES GRAY P AC
508 RALPH DR. 71 71 80
CARY 27511
U OF NC 919 733-5540

GROSSHANDLER, STANLEY LOUIS AN AC
1108 DRESSER CT. 55 55 78
RALEIGH 27609
OHIO STATE U 919 872-5330

GULLEDGE, SIDNEY LOY, III OPH AC
3400 EXECUTIVE DR., STE. 101 76 76 82
RALEIGH 27609
BOWMAN GRAY 919 878-0220

GUSTKE, SUSAN SHAW IM /HEM AC
4100 STRANAVER PLACE 64 70 76
RALEIGH 27612
WEST VA U 919 733-5431

HAAKENSON, GARY ALVIN OBG AC
3126 BLUE RIDGE RD. 72 72 79
RALEIGH 27606
BAYLOR 919 782-3865

HAIZLIP, THOMAS MATTHEWS CHP /P AC
5201 REMBERT DRIVE 58 58 69
RALEIGH 27612
U OF NC 919 733-5344

HALL, WARNER LEANDER, JR. OBG AC
P. O. BOX 18568 61 61 69
RALEIGH 27619
DUKE 919 782-1273

HAMMER, DOUGLAS IRA EM /GPM AC
P. O. BOX 30788 62 63 75
RALEIGH 27622
TUFTS U 919 847-8821

HARDISON, CYNTHIA STOLTZE IM AC
1212 CEDARHURST DR. 54 63 65
RALEIGH 27609
NORTHWESTERN U 919 872-4850

HARDISON, JOSEPH H.,JR. IM /GE AC
1212 CEDARHURST DR. 56 56 64
RALEIGH 27609
DUKE 919 872-4850

HARPER, ROBERT NORMENT, JR. GE /IM AC
P. O. BOX 18700 77 77 82
1212 CEDARHURST DR.
RALEIGH 27609
BOWMAN GRAY 919 872-4850

HARPER, ROBERT NORMENT, SR. P AC
3153-G GLENWOOD PROF. VILL. 51 51 53
RALEIGH 27608
BOWMAN GRAY 919 782-1555

HARRIS, ROBERT THOMAS IM /PYM AC
2800 BLUE RIDGE RD., STE. 503 78 81 86
RALEIGH 27607
EMORY U 919 782-7500

HART, TIMOTHY BERTRAND IM /PUD AC
1212 CEDARHURST DRIVE 79 80 84
RALEIGH 27609
MED COLL OF VA 919 872-4850

HARTZOG, HENRY GERARD, III GS AC
3814 BROWNING PLACE 62 62 69
RALEIGH 27609
U OF NC 919 781-0710

HATTAWAY, ALEXANDER C.,III OTO /HNS AC
3010 ANDERSON DR. 65 65 70
PO BOX 18946
RALEIGH 27619
U OF NC 919 787-7171

HAYES, DAVID ALLEN PUD /IM AC
1212 CEDARHURST DRIVE 72 72 79
RALEIGH 27609
U OF VIRGINIA 919 872-4850

HAYES, RICHARD IVAN OBG AC
1100 DRESSER COURT 66 66 75
RALEIGH 27609
OHIO STATE U 919 876-8225

HAYNES, LAWRENCE BOWMAN AN AC
1205 KERSHAW DR. 61 61 70
RALEIGH 27609
U OF TENNESSEE 919 782-2009

HAYWOOD, HUBERT BENBURY, III ID /IM AC
1212 CEDARHURST DR. 72 72 79
PO BOX 18700
RALEIGH 27619
U OF NC 919 872-4850

HAYWOOD, HUBERT BENBURY,JR. OPH L/RT
2109 BANBURY ROAD 41 46 52
RALEIGH 27608
DUKE 919 782-0236

HEATON, FREDERICK CHRISTIAN OBG AC
3805 COMPUTER DR. 72 72 76
RALEIGH 27609
U OF NC 919 781-6200

HELTON, WILLIAM CHARLES CDS /TS AC
3020 NEW BERN AVE. #560 69 69 78
RALEIGH 27610
U OF MIAMI 919 781-5335

HEMMERLEIN, ARTHUR HANS EM AC
1209 RAINWOOD LANE 73 74 86
RALEIGH 27605
ST LOUIS U 919 755-3100

HENDERSON, DAVID YEARDLEY OBG AC
5014 CORONADO DR. 81 84 85
RALEIGH 27609
MED COLL OF VA 919 684-2484

HENRICK, WILLIAM ROBERT AN AC
RALEIGH ANES. ASSOCIATES 71 72 80
P. O. BOX 18139
RALEIGH 27619
JEFFERSON 919 781-7420

HICKS, CHARLES HENRY CD AC
3400 EXECUTIVE DR. 76 77 82
RALEIGH 27609
U OF NC 919 872-8920

HOLT, WINDSOR AUSTIN OBG AC
1100 DRESSER COURT 64 64 71
RALEIGH 27609
CASE WESTERN RES 919 876-8225

HONEYCUTT, LATTIE FULLER DR AC
P. O. BOX 17947 67 67 76
RALEIGH 27619
U OF NC 919 872-4800

HORTON, ROBERT MARSHALL FP AC
3039 ESSEX CIRCLE, BLDG. A 72 73 75
RALEIGH 27608
MED COLL OF VA 919 782-2333

92. WAKE COMPONENT SOCIETY (Continued)

HOWIE, JOHN SANDALL PYA /P AC
3129 ESSEX CIRCLE 58 64 64
RALEIGH 27608
U OF NC 919 782-0616

HULL, KEITH LOWELL, JR. N /IM AC
PO BOX 40999 75 79 82
RALEIGH 27629
DUKE 919 782-3456

HUNTER, ROBERT MERRILL CDS /TS AC
3020 NEW BERN AVE. 78 83 78
RALEIGH 27610
BOWMAN GRAY 919 833-8404

HWANG, YINNAH G. FP AC
PO BOX 425 70 84 86
ZEBULON 27597
CHINA MED COLL 919 269-4101

JACOBSON, ROBERT CARL AN AC
P. O. BOX 18139 79 84 85
RALEIGH 27619
GEORGETOWN U 919 755-3034

JAIN, REKHA IM /PD AC
5813 NORTH BOULEVARD 76 80 84
RALEIGH 27604
GANDHI MED. COLL 919 878-8620

JEFFERS, ROBERT GORDON PD /ADL AC
3803 COMPUTER DR. STE. 207 74 74 83
RALEIGH 27609
TULANE U 919 782-5273

JENKINS, ALBERT MILTON R AC
400 SCOTLAND ST. 47 53 53
RALEIGH 27609
U OF CINCINNATI 919 787-4754

JOHNSON, ALBIN WILLARD OPH AC
2800 BLUE RIDGE BLVD.,STE. 409 58 64 65
RALEIGH 27607
DUKE 919 781-7400

JOHNSON, CHARLES ROSS P AC
4000 BLUE RIDGE RD. STE. 100 65 65 70
RALEIGH 27612
BOWMAN GRAY 919 781-8700

JOHNSON, JOY MOORING IM AC
4612 GUNSTON PL 82 85 79
RALEIGH 27612
EAST CAROLINA U 919 783-5312

JOHNSON, ROBERT BRUCE D AC
101 CARY PKWY. SW #210 78 82 86
CARY DERMATOLOGY CTR.
CARY 27511
DUKE 919 467-8556

JOHNSON, STEPHEN EDWARD EM /IM AC
10501 LEAFWOOD COURT 75 76 82
RALEIGH 27612
CASE WESTERN RES 919 755-3100

JOHNSTON, FRANK SMITH, JR. IM AC
3900 BROWNING PLACE 59 59 69
RALEIGH 27609
U OF NC 919 781-9650

JONES, DAVID HERMAN OPH AC
3900 BROWNING PLACE 59 59 66
RALEIGH 27609
U OF NC 919 787-2758

KAASA, LAURIN JUUL PTH L
3000 NEW BERN AVENUE 41 61 61
RALEIGH 27610
U OF MINN 919 755-8260

KAMM, RICK RANDE OBG AC
3805 COMPUTER DR. 70 71 77
RALEIGH 27609
U OF IOWA 919 781-6200

KANE, RICHARD DOUGLAS U AC
390L COMPUTER DR. 71 73 78
WAKE UROLOGICAL
RALEIGH 27609
NORTHWESTERN U 919 781-5104

KANICH, ROBERT EMIL PTH AC
4420 LAKE BOONE TRAIL 62 62 77
RALEIGH 27607
MED COLL OF VA 919 755-3057

KANOF, ELIZABETH PASCHER D AC
3400 EXECUTIVE DRIVE 60 65 66
RALEIGH, N, C. 27609
NEW YORK U 919 878-0310

KARAM, MICHAEL QUSTANDI IM /ON AC
3801 COMPUTER DR., STE. 212 67 76 78
RALEIGH 27609
CAIRO U 919 781-2643

KAYYE, PAUL THOMAS P /CHP AC
325 N. SALISBURY ST. 62 63 86
RALEIGH 27611
U OF MIAMI 919 733-7011

KEENER, JOSEPH KEITH NEP /IM AC
101 DURYER COURT 75 75 86
CARY 27511
ST LOUIS U 919 782-3378

KEENEY, RONALD ERIC PD /ID AC
5 MOORE DR., GLAXO, INC. 68 69 78
RESEARCH TRIANGLE PK 27709
U OF MISSOURI 919 248-2568

KELLEY, JOHN SIMPSON IM /CD AC
3100 BLUE RIDGE RD. 74 74 78
RALEIGH 27607
BOWMAN GRAY 919 781-7500

KENAN, LEROY FULTON FP AC
3801 COMPUTER DRIVE 56 56 59
RALEIGH 27609
BOWMAN GRAY 919 787-0302

KENNEDY, WILLARD LEE CD /IM AC
3400 EXECUTIVE DR., STE. 201 75 75 81
RALEIGH 27609
BOWMAN GRAY 919 872-8920

KERMON, LOUIS TODD IM /CD L/RT
2708 PEACHTREE ST. 50 50 52
RALEIGH 27608
JEFFERSON 919 782-2333

KILEY, JAMES WILLIAM OPH AC
3320 EXECUTIVE DR. 76 76 81
RALEIGH 27609
U OF CINCINNATI 919 876-2427

KIM, YOUNG CUE IM AC
209 W. MILLBROOK ROAD 68 75 77
RALEIGH 27609
KOREA U 919 781-5933

KIMBRELL, ODELL C., JR. IM /END AC
240 BRYAN BUILDING 51 51 60
RALEIGH 27605
U OF PENN 919 828-6393

KING, JAMES LEROY AN AC
2700 KINGSLEY RD. 58 58 62
RALEIGH 27612
BOWMAN GRAY 919 833-5085

KIRK, CHARLES DAYTON AN AC
RALEIGH ANESTHESIA ASSOC. 69 69 77
P. O. BOX 18139
RALEIGH 27619
U OF NC 919 872-4800

KITCHIN, TINA CIESIEL PD AC
DEVELOPMENTAL EVAL. CTR. 78 81 82
321 ASHE AVE.
RALEIGH 27609
U OF OREGON 919 782-0341

KOOMEN, JACOB, JR. PH L/RT
909 DOGWOOD LANE 45 58 60
RALEIGH 27607
U OF ROCHESTER 919 834-4355

KOPP, ELLIOT JOSEPH RHU /AI AC
3831 MERTON DR. 73 73 86
RALEIGH 27609
SYRACUSE 919 781-9633

KORNEGAY, RAYMOND DEWITT CDS /TS AC
2800 BLUE RIDGE BLVD.,STE. 306 45 45 56
RALEIGH 27607
BOWMAN GRAY 919 782-7900

KRATZ, ROBERT KEVIN EM /IM AC
3000 NEW BERN AVE. 73 73 78
RALEIGH 27610
U OF KENTUCKY 919 782-3969

KUNSTLING, TED RICHARD PUD /IM AC
1212 CEDARHURST DR. 68 68 75
RALEIGH 27609
DUKE 919 872-4850

KURZMANN, RICHARD WALTER OBG AC
2800 BLUE RIDGE BLVD. STE. 206 69 72 78
RALEIGH 27607
U OF VIRGINIA 919 781-7450

KUSUMI, YOSHITARO P /PYM AC
1004 DRESSER COURT, STE. 106 61 71 75
RALEIGH 27609
NIHON U 919 876-5530

LAMBETH, WILLIAM ARNOLD, III PS /GS AC
1112 DRESSER COURT 71 71 82
RALEIGH 27609
U OF NC 919 872-2616

LANNING, CHARLES FREDRIC AN AC
14208 ALLISON DR. 69 70 74
RALEIGH 27614
U OF KANSAS 919 832-7988

LAPP, CHARLES WARREN IM /PD AC
3400 EXECUTIVE DRIVE 74 74 74
RALEIGH 27609
ALBANY MED COLL 919 878-0900

LARSON, JOHN DAVID, JR. EM /OBG AC
8100 BENTWOOD PLACE 43 47 59
RALEIGH 27609
GEO WASHINGTON U 919 755-8500

LEE, WILLIAM DAVID FP AC
3100 BLUE RIDGE RD., STE. 302 74 74 77
RALEIGH 27612
U OF NC 919 782-0146

LEET, DOUGLAS CHARLES U AC
3320 WAKE FOREST RD., STE. 100 75 77 82
RALEIGH 27609
U OF CHICAGO 919 790-0036

LEGRAND, GORDON BUCK PTH AC
3000 NEW BERN AVENUE 65 65 72
RALEIGH 27610
U OF NC 919 755-8260

LEHAN, LEIGH STEELE PD AC
2800 BLUE RIDGE RD., STE. 501 81 84 86
RALEIGH 27607
U OF NC 919 781-7490

LEVINE, RONALD H. PH /PD AC
2404 WHITE OAK ROAD 59 65 66
RALEIGH 27609
DOWNSTATE ME CTR 919 782-0838

LINSTER, DOROTHY MAE OBG AC
3714 BENSON DR. 78 80 83
RALEIGH 27609
U OF NC 919 850-9377

LITTLETON, ROBERT ELTON OBG AC
3622 HAWORTH DR. 81 82 85
RALEIGH 27609
U OF NC 919 782-1273

LOCKLEAR, JIMMY IM /CD AC
1212 CEDARHURST DR. 80 83 85
PO BOX 18700
RALEIGH 27609
U OF NC 919 872-4850

LOWRY, ROY FRANK, JR. OPH AC
4024 BARRETT DR., STE. 104 68 68 74
RALEIGH 27609
U OF NC 919 787-3241

LUCEY, DONALD TRUESDELL U AC
2800 BLUE RIDGE BLVD. STE. 403 63 63 71
RALEIGH 27607
DUKE 919 781-7113

MACCORMACK, JOHN NEWTON PH AC
P. O. BOX 2091 62 62 75
RALEIGH 27602
U OF NC 919 733-3421

MADDOX, THOMAS WILBUR GS /VS AC
3814 BROWNING PLACE 79 80 86
RALEIGH 27609
U OF ALABAMA 919 781-0710

MADRY, HERBERT RAYMOND, JR. DR AC
2105 WHITE OAK ROAD 56 56 62
RALEIGH 27608
BOWMAN GRAY 919 833-9838

MAJORS, ROBERT POWELL, JR. OTO AC
3010 ANDERSON DR. 61 61 71
PO BOX 18946
RALEIGH 27619
GEO WASHINGTON U 919 787-7171

MANGANO, CHARLES ANGELO, JR. CD /IM AC
3020 NEW BERN AVE. STE. 420 74 75 79
RALEIGH 27610
U OF ROCHESTER 919 833-5111

92. WAKE COMPONENT SOCIETY (Continued)

MANLY, ISAAC VAUGHN GS /TS AC
2800 BLUE RIDGE BOULEVARD 46 46 55
RALEIGH 27607
HARVARD 919 781-7410

MANLY, JAMES HOLLOWELL, JR. GS AC
2800 BLUE RIDGE BLVD. #303 46 46 54
RALEIGH 27607
U OF PENN 919 781-7425

MANN, CARROLL LAMB, III NS AC
3009 NEW BERN AVE. 63 63 70
PO BOX 14027
RALEIGH 27620
U OF NC 919 832-4448

MANN, JAMES TIFT, III CD AC
WAKE HEART ASSOCIATES 69 70 78
PO BOX 14427
RALEIGH 27620
U OF NC 919 832-9253

MARKS, JOHN JACOB GYN AC
5512 HAWTHORNE PARK 79 80 86
RALEIGH 27612
U OF NC 919 848-1990

MARTIN, PHILIP L. OPH AC
3320 EXECUTIVE DR., STE. 210 73 75 76
RALEIGH 27609
U OF NC 919 872-0572

MARTIN, SIDNEY ARNOLD OM /FP AC
3141 ESSEX CIRCLE 53 53 57
RALEIGH 27608
BOWMAN GRAY 919 782-0911

MARUCHECK, JOHN THOMAS IM AC
6217 DRESDEN LANE 78 79 83
RALEIGH 27612
U OF OKLAHOMA 919 878-0900

MASON, ERIC W. AN AC
PO BOX 18139 80 81 85
RALEIGH 27619
U OF MIAMI 919 755-3034

MASSENGILL, G.K. GS L/RT
3308 TIMBER LAKE ROAD 36 36 57
RALEIGH 27604
DUKE 919 872-6924

MCBRIDE, ANN F. PD AC
3229 FLINTSHIRE RD. 82 86 87
RALEIGH 27604
DUKE 919 787-5495

MCDANIEL, WILLIAM JASON, JR. ORS AC
P. O. BOX 10707 67 67 72
RALEIGH 27605
U OF NC 919 781-5600

MCDOWELL, ROBERT WARREN GP AC
734 ROCK QUARRY ROAD 51 53 67
RALEIGH 27610
MEHARRY MED COLL 919 832-5389

MCGRORY, EDWARD JOSEPH,JR. OPH AC
3900 OLD WAKE FOREST ROAD 74 75 80
RALEIGH 27609
MED U OF SC 919 872-3242

MCKAY, MICHAEL DIXON GE AC
1212 CEDARHURST DR. 82 83 87
RALEIGH 27609
MED COLL OF GA 919 872-4850

MCKENZIE, SHEPPARD ALLEN, III OBG /IM AC
3805 COMPUTER DRIVE 74 74 79
RALEIGH 27609
U OF NC 919 781-6200

MCLAIN, LEE WILLIAM, JR. N AC
PO BOX 40999 61 61 86
RALEIGH 27629
DUKE 919 782-3456

MCMANUS, HUGH FORREST, JR. IM L
722 ST. MARY'S STREET 38 38 41
RALEIGH 27605
MED U OF SC 919 832-6510

MCREE, CHRISTINE ELLIS CHP AC
DOROTHEA DIX HOSP.-PSY 46 46 75
RALEIGH 27611
TULANE U 919 733-5344

MEDLIN, CHARLES THOMAS FP AC
2000 HIGHWAY 70 WEST 52 52 53
GARNER 27529
BOWMAN GRAY 919 772-3266

MELTZER, MORTON FP /P AC
ROUTE 1, BOX 231-A 65 65 70
CAMERON 28326
NEW YORK MED COL 919 245-4819

MERWARTH, CHARLES RICHARD IM /A AC
2800 BLUE RIDGE BLVD. #503 55 55 63
RALEIGH 27607
DUKE 919 782-7500

MILLER, PHILIP RAIFORD IM /CD AC
3100 BLUE RIDGE RD. 67 67 73
RALEIGH 27612
BOWMAN GRAY 919 781-7500

MILLER, WILLIAM STACEY D AC
3803-A COMPUTER DR. 61 61 69
RALEIGH 27609
U OF NC 919 782-2152

MILLWARD, DAVID KENT CD /IM AC
1212 CEDARHURST DR. 65 65 72
RALEIGH 27609
GEO WASHINGTON U 919 872-4850

MODROW, PETER ALBERT AN /P AC
805 FAULKNER PLACE 65 66 72
RALEIGH 27609
U OF NC 919 876-0581

MOHR, LINDA CHAPPELL OBG AC
1100 DRESSER COURT 80 81 85
RALEIGH 27609
U OF NC 919 876-8225

MONG, JAMES ARTHUR OBG AC
100 S. BOYLAN AVENUE 80 83 84
RALEIGH 27603
U OF CINCINNATI 919 832-5529

MONTGOMERY, STEPHEN PAUL ORS AC
P. O. BOX 10707 74 74 80
RALEIGH 27605
RUSH MED COLL 919 781-5600

MORESCHI, RAFAEL MARIANO IM /CD AC
105-A KILMAYNE DR. 72 81 84
CARY 27511
U OF ASUNCION 919 467-2253

MORROW, SARAH TAYLOR PH /PD AC
3304 WADE AVE. 44 45 61
RALEIGH 27607
U OF MARYLAND 919 851-9305

MOSELEY, JAMES RENNIE FP AC
340 N. MAIN STREET 54 54 70
WAKE FOREST 27587
U OF ALABAMA 919 556-4826

MOSELEY, ROBERT GALLOWAY PD AC
BOX 7304, NCSU-S.H.S. 57 57 62
RALEIGH 27695
DUKE 919 737-2563

MOSER, WADE HAUSER, JR. DR AC
CAPITAL RADIOLOGY ASSOC. 74 74 73
P. O. BOX 17947
RALEIGH 27619
U OF NC 919 847-8564

MULVANEY, GERALD GARFIELD OBG AC
11613 APPALOOSA RUN, WEST 78 80 83
RALEIGH 27612
BOSTON U 919 755-8535

MUNT, ROBERT LAWRENCE, JR. PD AC
4505 FAIR MEADOWS LN. #101 77 77 82
RALEIGH 27607
U OF NC 919 787-5495

MYERS, RICHARD STANTON GS /TS AC
2800 BLUE RIDGE BOULEVARD 65 65 73
RALEIGH 27607
WASHINGTON U 919 781-7414

NELSON, ROBERT BARRY ORS AC
P. O. BOX 10707 65 65 72
RALEIGH 27605
NORTHWESTERN U 919 781-5600

NEWELL, LANNING RICHARD GE /IM AC
3320 EXECUTIVE DR., STE. 119 75 77 81
RALEIGH 27609
U OF NC 919 878-9465

NEWMAN, WILLIAM NEAL CD /IM AC
WAKE HEART ASSOCIATES 77 82 83
PO BOX 14427
RALEIGH 27620
DUKE 919 832-9253

NG, GODOFREDO TAN GS /TS AC
1101 DRESSER COURT 62 62 70
RALEIGH 27609
U OF PHILIPPINES 919 876-2010

NICHOLS, MARK LOVEL IM /EM AC
2425 COLEY FOREST PLACE 71 73 84
RALEIGH 27612
MED COLL OF VA 919 755-8589

NICHOLSON, CHARLES H. AN AC
PO BOX 18139 82 83 86
RALEIGH 27619
ST U OF NY-BUFF 919 781-7420

NOAH, VAN BATCHELOR OPH AC
3900 OLD WAKE FOREST RD. 66 66 72
SUITE 104
RALEIGH 27609
BOWMAN GRAY 919 872-3242

NUNNALLY, JAMES THOMAS, III CHP /P AC
2000 YORKGATE DRIVE 59 59 71
RALEIGH 27612
MED COLL OF GA 919 781-1160

NUTT, JAMES EDWARD CD /IM AC
3400 EXECUTIVE DR., STE. 201 74 75 81
RALEIGH 27609
MED COLL OF GA 919 872-8920

OATES, LARRY ALLEN IM AC
2900 HIGHWOODS BLVD. 64 64 84
RALEIGH 27604
OHIO STATE U 919 878-9870

OLIVER, FREDERICK CARLTON, JR. IM AC
103 BAINES COURT 75 76 79
CARY 27511
MED U OF SC 919 467-6125

ORNITZ, ROBERT DAVID ON /TR AC
4420 LAKE BOONE TRAIL 71 75 79
RALEIGH 27607
U OF OKLAHOMA 919 755-3018

OSCHWALD, DONALD L.A., JR. PS AC
1112 DRESSER COURT 78 79 87
RALEIGH 27609
U OF NEW MEXICO 919 892-2616

OSTROW, BARRY SEYMOUR P AC
3049 ESSEX CIR. BLDG. A 66 66 74
RALEIGH 27608
U OF MICHIGAN 919 782-1366

OVERCASH, HAROLD PAYNE PD AC
3616 ALAMANCE DR. 79 82 77
RALEIGH 27609
U OF NC 919 787-0266

PAAR, JOHN ARTHUR CD /IM AC
1212 CEDARHURST DR. 60 61 68
RALEIGH 27609
U OF PITTSBURGH 919 872-4850

PACKER, JOHN WESLEY ORS /HS AC
3515 GLENWOOD AVE. 65 65 72
PO BOX 10707
RALEIGH 27605
BOWMAN GRAY 919 781-5600

PAGE, ERNEST BENJAMIN,JR. IM AC
2800 BLUE RIDGE BLVD.,STE. 503 49 53 55
RALEIGH 27607
DUKE 919 782-7500

PARKER, MICHAEL YOUNG OTO /HNS AC
3100 BLUE RIDGE RD., STE. 201 78 80 76
RALEIGH 27612
U OF NC 919 787-1374

PARNELL, JEROME PATRICK,II U AC
3901 COMPUTER DR. 74 75 82
RALEIGH 27609
DOWNSTATE ME CTR 919 781-5104

PARSONS, JAMES SHERIDAN IM AC
704 W. JONES STREET 76 76 75
RALEIGH 27603
U OF NC 919 832-5125

PASCHAL, GEORGE W., JR. GS L/RT
3334 ALAMANCE DRIVE 31 31 46
RALEIGH 27609
JEFFERSON 919 787-2177

PASCHAL, GEORGE W.,III GS /CDS AC
3814 BROWNING PLACE 73 73 78
RALEIGH 27609
BOWMAN GRAY 919 781-0710

92. WAKE COMPONENT SOCIETY (Continued)

PATE, DEWEY HARRIS PTH AC
WAKE MEMORIAL HOSPITAL 58 66 67
RALEIGH 27610
U OF NC 919 755-8260

PATTERSON, HUBERT CLIFTON OTO /PSF AC
P. O. BOX 18946 74 74 84
RALEIGH 27619
U OF NC 919 787-7171

PEARSON, JOHN KENT FP AC
P. O. BOX 727 53 53 56
APEX 27502
DUKE 919 362-8312

PEDIADITAKIS, NICHOLAS P. P AC
5100 LEADMINE ROAD 54 61 61
RALEIGH 27612
U THESSALONIKI 919 787-0710

PETERS, BRYAN MACLIN DR AC
3821 MERTON DR. 81 85 80
RALEIGH 27609
DUKE 919 755-8511

PIERSON, WILLARD CRESSE, JR. GE /IM AC
1212 CEDARHURST DR. 66 66 73
RALEIGH 27609
DUKE 919 872-4850

PIKE, MICHAEL ROBERT GE /IM AC
1151 KILDAIRE FARM ROAD 73 74 81
CARY 27511
MT SINAI SCH MED 919 469-1858

POLLOCK, MORRIS ARTHUR GE /IM AC
1212 CEDARHURST DR. 69 70 77
RALEIGH 27609
JEFFERSON 919 872-4850

POOLE, JAMES MORRISON PD /ADL AC
3803 COMPUTER DR., STE. 207 76 79 84
RALEIGH 27609
MED U OF SC 919 782-5273

POOLE, TERRY WAYNE OBG AC
2500 BLUE RIDGE CTR., STE. 401 73 73 79
RALEIGH 27607
BOWMAN GRAY 919 781-5510

POWELL, DAVID CLIFTON GS AC
1101 DRESSER COURT 78 79 75
RALEIGH 27609
U OF NC 919 876-2010

PRATT, LAURA WINSTEAD FP AC
3400 EXECUTIVE DR. STE. 203 72 72 74
RALEIGH 27609
BOWMAN GRAY 919 878-0340

PRICE, HARVEY CRAIG HNS AC
1905 STURBRIDGE COURT 78 80 83
RALEIGH 27612
U OF NC 919 782-8955

PRICE, JULIE B. GP AC
1026 MONMOUTH AVENUE 82 83 79
DURHAM 27701
DUKE 919 481-0277

PRITCHETT, NEWTON GEORGE IM AC
2800 BLUE RIDGE, STE. 205 42 53 53
RALEIGH 27607
DALHOUSIE U 919 782-0414

PROCTER, WILLIAM IVAN IM AC
3900 BROWNING PLACE 57 57 64
RALEIGH 27609
DUKE 919 781-9650

PUGH, VERNON WATSON, JR. PD AC
1321 OBERLIN ROAD 53 53 57
RALEIGH 27608
JEFFERSON 919 828-4747

PURNELL, WILLIAM DAVID OPH AC
801 OBERLIN ROAD, STE. 220 71 71 79
RALEIGH 27605
BOWMAN GRAY 919 828-0628

QUEEN, LAURINDA LEE D AC
4505 FAIR MEADOWS LN.,STE.103 81 82 86
RALEIGH 27607
U. OF ARIZONA 919 783-7877

QUIGLESS, MILTON DOUGLAS, JR. GS AC
100 SUNNYBROOK ROAD 71 72 79
P. O. BOX 14445
RALEIGH 27620
MEHARRY MED COLL 919 821-5771

QUINN, CLIFTON LEE P AC
3125 GLENWOOD PROF VILLAGE 54 54 55
RALEIGH NC 27608
U OF NC 919 782-0166

RADFORD, WANDA LEE OBG AC
2800 BLUE RIDGE BLVD.,STE. 206 75 75 75
RALEIGH 27607
U OF NC 919 781-7450

RAMQUIST, NEIL ALBERT DR AC
713 NEW KENT PLACE 77 78 79
CARY 27511
U OF CA-DAVIS 919 783-3023

REDDY, AMARENDRA BUSA CD /IM AC
3020 NEW BERN AVE., STE. 410 68 74 76
RALEIGH 27610
GANDHI MED COLL 919 828-8967

REES, MICHAEL STEVENS IM AC
3101 ESSEX CIRCLE, BLDG. E 76 76 79
RALEIGH 27608
VANDERBILT U 919 782-2631

REIBEL, DONALD BAUMANN ORS AC
P. O. BOX 10707 57 64 64
RALEIGH 27605
INDIANA U 919 781-5600

RENDLEMAN, DAVID ATWELL, III ORS AC
3410 EXECUTIVE DRIVE 70 70 78
RALEIGH 27609
U OF NC 919 872-5296

RHODES, JOHN FLINT U AC
2800 BLUE RIDGE BLVD. STE. 403 62 62 70
RALEIGH 27607
U OF NC 919 781-7113

RHODES, JOHN SLOAN U L/RT
10 SPRINGMOOR DRIVE 29 29 36
RALEIGH 27615
HARVARD 919 848-7010

RHYNE, JIMMIE LEE PH /PD AC
DIV.OF HEALTH SERVICES 48 48 56
PO BOX 2091
RALEIGH 27602
U OF MARYLAND 919 733-7791

ROBERTS, SURRY PARKER RHU /IM RT
700 RUNNYMEDE ROAD 66 66 76
RALEIGH 27607
U OF NC 919 781-1274

ROBINSON, CHARLES HALL, JR. OPH AC
3900 OLD WAKE FOREST ROAD 75 76 73
SUITE 104
RALEIGH 27609
DUKE 919 872-3242

ROLLINS, ROBERT LEROY, JR. P AC
2500 WAKE DRIVE 56 56 60
RALEIGH 27608
DUKE 919 733-5525

ROOD, MARY FRANCES MUNCH P AC
2440 SPRINGMOOR CIRCLE 55 55 59
RALEIGH 27615
U OF NC 919 848-7440

ROYSTER, CHAUNCEY LAKE IM L/RT
1801 MCDONALD LANE 35 35 41
RALEIGH 27608
CORNELL U 919 832-0796

RUARK, ROBERT JAMES OBG L/RT
525 WADE AVENUE, APT. #51 31 32 34
RALEIGH 27605
U OF PENN 919 832-4722

RUIZ, FERNANDO REY P /GER AC
4096 BARRETT DR. 65 77 82
RALEIGH 27609
U OF CHILE 919 832-7606

RUSSELL, ROGER BIVINS PS /GS AC
2501 NORTH ST., STE. 500 76 80 84
RALEIGH 27607
BOWMAN GRAY 919 782-7762

SAAD, MAGED HANNA P /GP AC
3010 FALSTAFF ROAD 61 75 75
RALEIGH 27610
CAIRO U 919 821-0300

SALEEBY, RICHARD GEORGE CRS AC
3801 COMPUTER DRIVE 46 47 55
RALEIGH 27609
JEFFERSON 919 787-2542

SALTER, TERESA PALMER PD AC
101 W. DURHAM ROAD 75 75 80
CARY 27511
U OF NC 919 467-5543

SANCHEZ, CLARE JEANNE GER /IM AC
3000 NEW BERN AVE. 75 77 8
WAKE AHEC MED. TEACHING SERV.
RALEIGH 27610
U OF COLORADO 919 755-852

SANDERS, LEE HYMAN PD L/R
2502 ANDERSON DRIVE 42 42 4
RALEIGH 27608
TEMPLE U 919 787-988

SATTERFIELD, BENTON SAPP OBG AC
3126 BLUE RIDGE RD. 62 62 6
RALEIGH 27606
DUKE 919 782-386

SCANLAN, JAMES GEORGE CD /IM AC
3400 EXECUTIVE DR., STE. 201 73 74 8
RALEIGH 27609
NORTHWESTERN U 919 872-892

SCARBOROUGH, DAWSON EMERSON PTH AC
WAKE CO. MED. CTR.,-PATH. 62 62 7
RALEIGH 27610
U OF NC 919 755-826

SCARBOROUGH, WALTER AVERY, JR. P AC
1004 DRESSER COURT, STE. 101 67 67 7
RALEIGH 27609
DUKE 919 876-009

SCHAAF, ROBERT EDMUND DR AC
WAKE RADIOLOGY CONSULTANT 76 77 8
P. O. BOX 19366
RALEIGH 27619
TUFTS U 919 787-819

SCHECTER, NANCY POST N AC
3320 EXECUTIVE DRIVE 79 83 8
RALEIGH 27609
DUKE 919 872-094

SCHUMACK, EDWARD JAMES P /FP AC
PO BOX 16125 66 72 8
RALEIGH 27610
LOYOLA U 919 839-857

SCHURTER, LONIS LEON LM RT
505 NORTHWOOD CIRCLE 46 65 6
GARNER 27529
U OF OKLAHOMA 919 772-336

SCHWARZ, RONALD PAUL GE /IM AC
3521 HAWORTH DR. 77 79 8
RALEIGH 27609
CORNELL U 919 782-180

SCOTT, HARRY WHITE D AC
3900 BROWNING PL.,STE. 202 62 62 7
RALEIGH 27609
U OF NC 919 782-273

SCOVIL, JAMES A., JR. CD /IM AC
4021 BARRETT DR. 71 71 8
RALEIGH 27609
U OF NC 919 782-155

SEDWITZ, JOSEPH LEE GS /GYN AC
231 HOSPITAL ROAD 51 61 6
ZEBULON 27597
U OF VIRGINIA 919 269-931

SELLERS, BOBBY EUGENE P AC
3900 BROWNING PLACE 63 64 6
RALEIGH 27609
U OF TENNESSEE 919 787-712

SENTER, WILLIAM JEFFRESS IM AC
704 W. JONES STREET 42 42 4
RALEIGH 27603
U OF MARYLAND 919 832-512

SHAH, PRIYAVADAN MANEKLAL CD /IM AC
121 EDINBURGH ST. #208 72 73 8
CARY 27511
BARODA U 919 469-991

SHAW, DALE RUSSELL DR AC
P. O. BOX 19366 73 73 7
RALEIGH 27619
DUKE 919 787-819

SHEARIN, WILLIAM ARTHUR OPH AC
2800 BLUE RIDGE BLVD., STE.405 62 62 6
RALEIGH 27607
DUKE 919 781-737

SHICK, JAFAR MO AN AC
7321 GRIST MILL RD. 61 62 7
RALEIGH 27609
U OF TEHRAN 919 755-800

92. WAKE COMPONENT SOCIETY (Continued)

IDES, EVIN HENDERSON, III — IM /ID AC
3320 EXECUTIVE DR. — 65 65 71
RALEIGH 27609
U OF NC — 919 876-9688

INCLAIR, LOUIS GORDON — GS /GYN L/RT
3309 WHITE OAK ROAD — 33 33 39
RALEIGH 27609
U OF PENN — 919 787-9356

MITH, JANE SWAN — IM AC
1212 CEDARHURST DR. — 81 81 86
RALEIGH 27609
U OF CINCINNATI — 919 872-4850

MITH, STEPHEN WAYNE — IM /CD AC
2800 BLUE RIDGE, STE. 205 — 73 74 75
RALEIGH 27607
U OF NC — 919 782-0414

NYDER, EDWARD SUTTON — DR /NM AC
1216 BARCROFT PLACE — 65 65 72
RALEIGH 27609
GEORGETOWN U — 919 847-1289

PAIN, ROBERT SPRUILL — IM AC
3707 OLD LASSITER MILL ROAD — 46 46 55
RALEIGH 27609
WASHINGTON U — 919 782-2805

PARROW, NATHANIEL LOUIS — OTO AC
3010 ANDERSON DR. — 57 57 65
PO BOX 18946
RALEIGH 27619
U OF NC — 919 787-7171

PRUNT, WM HUTCHINSON, III — R /RHU AC
6508 BROOKHOLLOW DR. — 45 48 53
RALEIGH 27609
HARVARD — 919 787-8199

TAFFORD, STEVEN JAMES — U AC
3410 EXECUTIVE DR. STE. 201 — 76 76 83
RALEIGH 27609
U OF CHICAGO — 919 966-2571

TALLINGS, TOLBERT LACY — GS AC
3814 BROWNING PLACE — 54 54 59
RALEIGH 27609
DUKE — 919 781-0710

TILES, EDDIE PHILLIPS — FP AC
BOX A — 63 63 66
APEX 27502
U OF NC — 919 362-7353

TIRMAN, JERRY ARCHIBALD, JR. — GS /TS AC
1101 DRESSER COURT — 74 74 80
RALEIGH 27609
U OF TEXAS — 919 876-2010

TOCKS, LEWIS HENRY, III — GS /TS AC
1108 DRESSER COURT — 71 73 76
RALEIGH 27609
M C OF WISCONSIN — 919 876-2010

TONE, KAREN E. — FP AC
1974 CHANDALOR DR. APT. 9 — 79 80 86
PELHAM, AL 35124
U OF ALABAMA

TRADER, KYLE WOODROW — RHU /A AC
3831 MERTON DR. — 81 81 86
RALEIGH 27609
WEST VA U — 919 781-9633

TRATAS, NICHOLAS EMANUEL — P /HYP AC
3900 BROWNING PL. #201 — 57 60 63
RALEIGH 27609
U OF TORONTO — 919 787-7125

TYRON, CHARLES WOODROW — IM /DIA L
615 ST. MARY'S STREET — 38 46 46
RALEIGH 27605
DUKE — 919 828-7773

ULLIVAN, WILLIAM GREGORY — GS AC
3400 EXECUTIVE DR., STE. 104 — 60 61 73
P. O. BOX 17200
RALEIGH 27619
LOYOLA U — 919 876-2732

UMMERLIN, ARTHUR ROGERS — OBG AC
2800 BLUE RIDGE BLVD. #401 — 48 48 56
RALEIGH 27607
U OF VIRGINIA — 919 781-5504

WAIM, LINDIAN JOSEPH, JR. — OBG AC
2500 BLUE RIDGE RD., STE. 219 — 73 73 83
RALEIGH 27607
U OF NC — 919 782-9005

SWANN, EDWIN RUSSELL — OPH AC
100 SUNNYBROOK RD. STE. 103 — 75 76 87
RALEIGH 27610
U OF NC — 919 833-8878

SWEENEY, CHARLES LESLIE, JR. — FP AC
P. O. BOX 17263 — 57 57 62
RALEIGH 27619
DUKE — 919 787-5211

TAYLOR, MICHAEL ALAN — PD AC
4505 FAIR MEADOWS LN.STE. 101 — 76 77 80
RALEIGH 27607
U OF LOUISVILLE — 919 787-5495

TELFER, JAMES GAVIN, JR. — IM /FP AC
305 S. ACADEMY STREET — 71 77 78
CARY 27511
WASHINGTON U — 919 467-7528

THOMAS, BEN DAVID — FP AC
P. O. BOX 247 — 44 46 47
ZEBULON 27597
MED U OF SC — 919 269-9111

THOMAS, EDWIN SCOTT — IM AC
106 E. PARK ST. — 64 64 85
CARY 27511
U OF NC — 919 467-8168

THORNHILL, EDWIN HALE — OTO /OPH L
720 W. JONES STREET — 38 41 42
RALEIGH 27603
DUKE — 919 834-7341

THORNHILL, GEORGE TUDOR — OPH L
720 W. JONES STREET — 41 49 50
RALEIGH 27603
DUKE — 919 834-7341

THULLEN, JAMES DONALD — PD /NPM AC
2311 LAKE DRIVE — 70 70 82
RALEIGH 27609
DES MOINES OST — 919 755-8545

THURBER, DAVID CUSHMAN, JR. — IM AC
MED. DEP. DOROTHEA DIX HOSP — 77 79 85
RALEIGH 27611
U OF ROCHESTER — 919 733-5157

TILSON, HUGH H. — GPM /PH AC
3030 CORNWALLIS RD. — 64 64 79
RESEARCH TRIANGLE PK 27709
WASHINGTON U — 919 248-4354

TORTORA, FRANK L.,JR. — U AC
101 S. W. CARY PARKWAY — 77 79 87
CARY 27511
EMORY U — 919 467-3203

TOSKY, GEORGE MICHAEL — OBG AC
3000 NEW BERN AVE. — 81 82 86
RALEIGH 27610
BOWMAN GRAY — 919 755-8535

TOVE, NANCY LOUISE — FP AC
3100 BLUE RIDGE RD. — 82 83 86
RALEIGH 27612
U OF NC — 919 782-0146

TUCKER, GEORGE FRANKLIN — FP AC
P. O. BOX 246 — 52 52 53
ZEBULON 27597
MED COLL OF VA — 919 269-9144

TUMEN, JON JAY — IM /PUD AC
3100 BLUE RIDGE RD., STE. 300 — 80 00 79
RALEIGH 27607
DUKE — 919 781-7500

UMPHLET, THOMAS LEONARD — IM L/RT
2519 WHITE OAK ROAD — 34 34 39
RALEIGH 27609
U OF PENN — 919 787-9650

UNGER, HENRY ALAN — U AC
101 S. W. CARY PARKWAY — 72 76 81
CARY 27511
VANDERBILT U — 919 467-3203

VALONE, JAMES AUSTIN — PS /GS L
2800 BLUE RIDGE BLVD.,#304 — 36 47 54
RALEIGH 27607
ST U OF NY-BUFF — 919 781-7430

VANN, ROBERT LEE — PD /PA AC
GLAXO, INC.P.O.BOX 13960 — 45 45 83
RESEARCH TRIANGLE PK 27709
BOWMAN GRAY — 919 248-2100

VAUGHN, DONALD EUGENE — EM /FP AC
120 WIND CHIME COURT — 57 61 61
RALEIGH 27615
U OF TENNESSEE — 919 847-8821

VENTERS, GEORGE COLE — ORS AC
3410 EXECUTIVE DRIVE — 71 71 76
RALEIGH 27609
U OF NC — 919 872-5296

VEST, HOWARD RYLAND, JR. — AN AC
RALEIGH ANESTHESIA ASSOC. — 71 71 74
P. O. BOX 18139
RALEIGH 27619
U OF VIRGINIA — 919 781-7420

WALDENBERG, LEOPOLD MARK — GS AC
3400 EXECUTIVE DR. STE. 104 — 65 65 72
P. O. BOX 17200
RALEIGH 27619
TUFTS U — 919 876-2732

WALKER, PRESTON ALMAND — CHP /P AC
TAYLOR HALL — 59 60 67
DOROTHEA DIX HOSPITAL
RALEIGH 27611
MED U OF SC — 919 733-5130

WARD, JOHN THOMAS — OPH AC
3100 BLUE RIDGE RD., STE. 200 — 81 83 86
RALEIGH 27612
U OF OKLAHOMA — 919 787-2211

WARREN, JULIAN MARION — FP
BOX 1120, SPRING HOPE CLINIC — 56 57 58
SPRING HOPE 27882
U OF VIRGINIA — 919 478-4600

WARREN, LARRY E. — IM AC
503 SUNNYBROOK ROAD — 74 74 84
RALEIGH 27610
U OF NC — 919 755-8394

WATANABE, TSUNEO KENT — OTO /HNS AC
101 S. W. CARY PARKWAY — 74 78 83
CARY 27511
KEIO GIJUKU U — 919 467-7380

WEBB, ALEXANDER, JR. — GS L/RT
2708 FAIRVIEW ROAD — 37 40 41
RALEIGH 27608
HARVARD — 919 781-3469

WEISLER, RICHARD HARRY — P AC
3320 EXECUTIVE DR. STE. 216 — 76 76 82
RALEIGH 27609
U OF NC — 919 782-4672

WHELISS, JOHN ANGUS — OPH AC
2800 BLUE RIDGE BLVD. STE. 407 — 52 54 57
RALEIGH 27607
COLUMBIA U — 919 781-7402

WHICKER, JAMES HUBERT — OTO AC
3010 ANDERSON DRIVE — 66 74 82
P. O. BOX 18946
RALEIGH 27619
U OF NC — 919 787-7171

WHITAKER, DONALD NASH — FP L/RT
2016 CAMERON STREET — 40 40 46
RALEIGH 27605
TEMPLE U — 919 832-0343

WHITEHURST, LEE ALBERT — ORS AC
3515 GLENWOOD AVENUE — 72 72 78
P. O. BOX 10707
RALEIGH 27605
U OF NC — 919 781-5600

WHITNEY, PAMELA JOYCE — N AC
3320 EXECUTIVE DR., STE. 218 — 80 80 84
RALEIGH 27609
U OF OKLAHOMA — 919 872-0940

WIEGAND, STEVEN FREDERICK — EM /FP AC
10305 WHITESTONE ROAD — 77 78 80
RALEIGH 27609
HAHNEMANN — 919 848-9471

WILEY, JERRY WILLIAM — PD AC
4700 WESTMINISTER DR. — 74 75 78
RALEIGH 27604
DUKE — 919 733-2833

WILKERSON, ANNIE LOUISE — OBG /GYN L
100 S. BOYLAN AVENUE — 38 38 39
RALEIGH 27603
MED COLL OF VA — 919 832-5529

WILKERSON, LOUIS REAMS — OBG AC
100 S. BOYLAN AVENUE — 52 52 56
RALEIGH 27603
MED COLL OF VA — 919 832-5529

WILKINS, EZRA BROOKS — FP AC
6204 GAINSBOROUGH DR. — 75 75 79
RALEIGH 27612
U OF NC — 919 782-0146

92. WAKE COMPONENT SOCIETY (Continued)

WILKINSON, JAMES SPENCER,SR. D L
215 BRYAN BLDG. 38 38 40
RALEIGH 27605
U OF PENN 919 832-6044

WILLETT, ROBERT W. IM /N AC
2800 BLUE RIDGE BLVD. STE 503 48 53 55
RALEIGH 27607
DUKE 919 782-7500

WILLIAMS, ROBERT DR L/RT
2305 HATHAWAY ROAD 35 35 46
RALEIGH 27608
U OF PENN 919 833-5645

WILSON, THOMAS BARNETTE PTH L/RT
501 E. WHITAKER MILL RD. 405-A 36 40 46
RALEIGH 27608
NEW YORK MED COL 919 839-0250

WILSON, WILLIAM LENOIR PH L/RT
WEDGEWOOD APT. #23 26 59 60
740 E. SMALLWOOD DR.
RALEIGH 27605
BAYLOR 919 828-2940

WINSLOW, FRANCIS EDWARD, JR. PD AC
3001 ESSEX CIRCLE 53 53 61
RALEIGH 27608
DUKE 919 782-0021

WINSLOW, ROBERT BROWN PS /GS AC
2501 NORTH ST., STE. 500 62 62 72
RALEIGH 27607
COLUMBIA U 919 782-7762

WOLFE, ANN FIERRO PD AC
6912 HUNTERS WAY 61 61 83
RALEIGH 27615
TEMPLE U 919 733-3816

WOODARD, PAUL RICHARD AN AC
1825 ST. MARY'S ST. 79 80 85
RALEIGH 27608
U OF NC 919 755-8000

WOODARD, SABRA ALDERMAN R /NM AC
1825 ST. MARY'S STREET 76 76 84
RALEIGH 27608
U OF NC 919 755-3023

WOODRUFF, LEON FESTUS, JR. OBG AC
2800 BLUE RIDGE,BLVD.,STE. 502 72 72 76
RALEIGH 27607
BOWMAN GRAY 919 781-5510

WOOTEN, ELEANOR JANE H. PD /PH AC
904 WILLIAMSON DRIVE 42 44 46
RALEIGH 27608
DUKE 919 832-4097

WORTH, THOMAS CLARKSON R L/RT
500 LAKE BOONE TRAIL 36 36 49
RALEIGH 27608
HARVARD 919 787-6449

WRIGHT, JAMES RHODES OTO /OPH L
528 WADE AVENUE 40 40 40
RALEIGH 27605
U OF MARYLAND 919 834-8251

WRIGHT, JOHN EVERETT GP L/RT
P. O. BOX 348 37 37 38
FUQUAY-VARINA 27526
JEFFERSON 919 552-2728

WYNIA, VIRGIL HOWARD CD /IM AC
3020 NEW BERN AVE. #420 72 74 81
RALEIGH 27610
HARVARD 919 781-7557

YARBOROUGH, MICHAEL FRANCIS GS /TS AC
3400 EXECUTIVE DR. STE. 104 72 72 81
PO BOX 17200
RALEIGH 27619
U OF NC 919 876-2732

YELLIG, EDWARD BOOTH IM AC
2800 BLUE RIDGE BLVD. STE. 503 69 75 78
RALEIGH 27607
JEFFERSON 919 782-7500

YOFFE, ELIZABETH HARRER ON /HEM AC
PO BOX 30098 77 80 83
RALEIGH HEM/ONCOLOGY CLI.
RALEIGH 27622
U OF FLORIDA 919 781-7070

YOFFE, MARK ON /HEM AC
PO BOX 30098 77 80 83
RALEIGH HEM/ONCOLOGY CLI.
RALEIGH 27622
U OF FLORIDA 919 781-7070

YOUNG, DAVID ALEXANDER P /PYA L
615 ST. MARY'S STREET 31 31 46
RALEIGH 27605
HARVARD 919 834-0821

ZARZAR, NAKHLEH PACIFICO P AC
3125 GLENWOOD PROF. VILL. 56 63 64
BLDG. H
RALEIGH 27608
AMER.U OF BEIRUT 919 782-0166

ZEITLER, KENNETH DALE HEM /ON AC
PO BOX 30098 75 75 83
RALEIGH HEM/ONCOLOGY CLI.
RALEIGH 27622
COLUMBIA U 919 781-7070

ZELLER, DONALD JOHN FP AC
1210 LARKHALL CT. 83 84 87
CARY 27511
JEFFERSON 919 782-0146

ZELLINGER, MICHAEL JAY CD /IM AC
WAKE HEART ASSOCIATES 73 75 81
PO BOX 14427
RALEIGH 27620
DUKE 919 832-9253

ZEOK, JOHN VICTOR CDS /TS AC
3400 EXECUTIVE DR. STE. 102 67 81 82
RALEIGH 27609
JEFFERSON 919 872-8080

93. WARREN COMPONENT SOCIETY

OFFICERS—**President:** K. D. Trivedi, M.D., 546 W. Ridgeway St., Warrenton 27589 (919 257-2346)
Secretary: K. D. Trivedi, M.D., 546 W. Ridgeway St., Warrenton 27589 (919 257-2346)

95. WATAUGA COMPONENT SOCIETY

OFFICERS—**President:** John D. Davis, M.D., P.O. Box 8, Blowing Rock 28605 (704 295-3116)
Secretary: Jo Francis Garner, II, M.D., 204 Doctor's Dr., Boone 28607 (704 264-4553)

ATKINS, WILLIAM SHAFFER OPH AC
907 STATE FARM ROAD 71 71 78
BOONE 28607
BOWMAN GRAY 704 262-1554

BRANDON, HENRY ALLEN, JR. IM AC
250 DOCTORS DRIVE 70 70 80
BOONE 28607
BOWMAN GRAY 704 264-6362

CZERMAK, CHARLES LOUIS, JR. DR AC
P. O. BOX 1781 66 66 75
BOONE 28607
EMORY U 704 264-6984

DAVANT, CHARLES, III FP AC
P. O. BOX 8 72 72 77
BLOWING ROCK 28605
U OF NC 704 295-3116

DAVANT, CHARLES, JR. FP /OPH AC
P. O. BOX 8 45 48 48
BLOWING ROCK 28605
MED U OF SC 704 295-3116

DAVIS, JOHN D., JR. FP AC
P. O. BOX 8 78 79 75
BLOWING ROCK 28605
U OF NC 704 295-3116

DEAN, CLAYTON CLEWIS GS /CDS AC
207 LONGVUE DRIVE 60 60 70
BOONE 28607
TULANE U 704 264-7650

DERRICK, WILLIAM ADAM, JR. ADL /GP AC
ASU HEALTH SERVICES 65 65 78
BOONE 28608
MED U OF SC 704 262-3100

DOUGLAS, MICHAEL ERIN AN AC
301 BIRCH STREET 72 73 80
BOONE 28607
U. OF ARIZONA 704 264-4691

FLEMING, STEPHEN G. ORS AC
30 DOCTORS PARK 80 81 86
BOONE 28607
BOWMAN GRAY 704 264-1100

FURMAN, LOWELL BENJAMIN GS /CDS AC
STATE FARM ROAD 55 63 63
BOONE 28607
U OF TENNESSEE 704 264-2340

FURMAN, RICHARD WARREN TS /GS AC
702 STATE FARM ROAD 66 66 74
BOONE 28607
MED COLL OF GA 704 264-2340

GARNER, JO FRANCIS, II D AC
204 DOCTOR'S DR. 76 78 82
BOONE 28607
U OF SOU ALA 704 264-4553

HAGAMAN, LEN DOUGHTON GP AC
8 DOCTOR'S DR. 36 36 38
BOONE 28607
U OF PENN 704 264-3923

HAMBY, JAMES LAWRENCE U AC
WATAUGA MED. ARTS. BLDG. 67 68 72
BOONE 28607
U OF MARYLAND 704 264-5150

HARMON, RAYMOND HARRIS OPH L/RT
120 HIGHLAND AVENUE 36 36 36
BOONE 28607
MED COLL OF VA 704 264-8669

HERRING, WILLIAM ARTHUR, JR. ORS AC
30 DOCTOR'S PARK 65 65 73
BOONE 28607
MED U OF SC 704 264-1100

KADYK, JAN MARC ORS AC
30 DOCTOR'S PARK 69 70 77
BOONE 28607
U OF KANSAS 704 264-1100

MARCHESE, JOHN RICHARD OBG AC
40 DOCTORS DR. 61 61 71
BOONE 28607
GEORGETOWN U 704 264-9067

MILLER, EDMUND EUGENE OPH AC
200 DOCTORS DRIVE 74 74 77
BOONE 28607
NORTHWESTERN U 704 264-0042

NORDSTROM, CARL ROBERT FP AC
10 DOCTOR'S DR. 76 79 87
BOONE 28607
BOWMAN GRAY 704 264-3881

NORMAN, ANDY MURRAY OBG AC
20 DOCTOR'S PARK 76 77 82
BOONE 28607
MED COLL OF GA 704 264-1232

STANLEY, RONALD JAY D AC
204 DOCTORS DRIVE 72 72 81
BOONE 28607
U OF NC 704 264-4553

SYKES, CHARLIE LOUIS, JR. IM AC
250 DOCTORS DRIVE 77 77 79
BOONE 28607
BOWMAN GRAY 704 264-6362

95. WATAUGA COMPONENT SOCIETY (Continued)

AYLOR, RUSSELL CARL IM /NEP AC
250 DOCTORS DRIVE 64 64 70
BOONE 28607
U OF NC 704 264-6362

RATHEN, WILLIAM THOMAS OBG AC
20 DOCTORS PARK 64 64 70
BOONE 28607
U OF TORONTO 704 264-9067

VANCE, THOMAS DOYLE DR AC
904 STATE FARM ROAD 56 56 71
PO BOX 1097
BOONE 28607
DUKE 704 264-6984

WALLER, TED JAMES ORS AC
30 DOCTOR'S PARK 66 67 74
BOONE 28607
NORTHWESTERN U 704 264-1100

96. WAYNE COMPONENT SOCIETY

OFFICERS—**President:** Paul C. Bennett, M.D., 2400 Wayne Memorial Dr., Goldsboro 27530 (919 735-1251)
Secretary: David A. Rockwell, M.D., 2701 Medical Office Pl., Goldsboro 27530 (919 736-2157)
Executive Secretary: Peggy G. Potter, Calier Box 8001, Goldsboro 27530 (919 731-6133)

TKINS, JAMES NORMAN ON /IM AC
201 COX BOULEVARD 76 77 85
GOLDSBORO 27530
BOWMAN GRAY 919 734-9455

ATEMAN, WALLACE BRYSON, JR. EM AC
309 WALNUT CREEK DRIVE 76 76 79
GOLDSBORO 27530
U OF NC 919 778-6205

ENNETT, PAUL CLIFFORD, JR. FP AC
2400 WAYNE MEM. DR., STE. B 55 55 59
GOLDSBORO 27530
DUKE 919 735-1251

ERKELEY, SCOTT BRUCE, JR. GS AC
2400 WAYNE MEM. DR. STE. E 53 53 60
GOLDSBORO 27530
U OF MARYLAND 919 735-6021

LACKMAN, JESSE AYCOCK GP AC
109 S. SYCAMORE STREET 73 73 76
FREMONT 27830
U OF NC 919 242-6171

LAND, RALPH WINGATE GS /TS AC
2400 WAYNE MEM.DR.,STE.J 52 52 60
GOLDSBORO 27530
BOWMAN GRAY 919 734-5010

OMBATEPE, VAMIK FP AC
204 N. HERMAN STREET 51 51 74
GOLDSBORO 27530
U OF ANKARA 919 735-7580

RENTON, BRADLEY CLARK DR AC
2700 MEDICAL OFFICE PLACE 79 80 85
GOLDSBORO 27530
U OF IOWA 919 734-1866

RUBECK, ELLEN TEMPLE FP /GER AC
238 SMITH CHAPEL RD. 75 76 82
MOUNT OLIVE 28365
OHIO STATE U 919 658-4954

AMPBELL, ROBERT RICHARD R AC
2700 MEDICAL OFFICE PLACE 66 66 73
GOLDSBORO 27530
MED COLL OF VA 919 734-1866

AMPBELL, WALKER HAWES OBG AC
2400 WAYNE MEMORIAL DRIVE 63 63 73
GOLDSBORO 27530
MED COLL OF VA 919 734-3344

ECIL, STEPHEN GERARD AN AC
607 WOODBERRY DR. 81 82 84
GOLDSBORO 27530
U OF KENTUCKY 919 731-6089

OMPTON, JOHN WALLACE R AC
2700 MEDICAL OFFICE PLACE 45 52 53
GOLDSBORO 27530
MED COLL OF VA 919 734-1866

ALE, GROVER CLEVELAND GP L
3293 RANDY ROAD 25 25 27
LANCASTER, PA 17601
U OF PENN 717 898-8033

AVIS, DONALD FALES P /N AC
ROUTE #10, BOX 46 55 55 64
GOLDSBORO 27530
BOWMAN GRAY 919 778-3973

RUMMOND, JACK NEWTON FP AC
GRANTHAM MEDICAL CLINIC 57 57 62
RT. 1, BOX 100-C
GOLDSBORO 27530
BOWMAN GRAY 919 689-2222

EDWARDS, CHARLES DANIEL GS AC
202 CARSWELL LANE 50 59 59
GOLDSBORO 27530
U OF WISCONSIN 919 778-1205

ETHERINGTON, JOHN L. OPH /OTO L
2709 MEDICAL OFFICE PLACE 36 36 47
GOLDSBORO 27530
QUEENS U 919 735-3701

FAUSCH, MARK DAVID IM AC
1201-C WAYNE MEMORIAL DR. 79 81 83
GOLDSBORO 27530
U OF MINN 919 734-7530

FISHER, JOHN APFEL PD AC
DEPUTY DIRECTOR,MED. SERV. 52 57 85
O'BERRY CENTER, BOX 247
GOLDSBORO 27530
HAHNEMANN 919 731-3670

FORREST, TERRY LEE OPH AC
PO BOX 10907 82 84 80
GOLDSBORO 27532
U OF NC 919 734-8440

GAGLIANO, LOUIS ANTHONY P /GER AC
P. O. BOX 1975 71 72 77
GOLDSBORO 27530
U OF LOUVAIN 919 734-8604

GARCIA, GILBERT JOSEPH, JR. GS /VS AC
1008 E. ASH STREET 78 78 85
GOLDSBORO 27530
U TX-SAN ANTONIO 919 734-6414

GEER-BRENTON, LINDA LOU DR AC
2700 MEDICAL OFFICE PLACE 81 82 85
GOLDSBORO 27530
OHIO STATE U 919 734-1866

GOODEN, MICHAEL DEAN OBG AC
2400 WAYNE MEM. DR., STE. K 73 74 77
GOLDSBORO 27530
U OF NC 919 734-3344

GRANT, JOSEPH DURHAM ORS AC
2701 MEDICAL OFFICE PLACE 79 79 85
GOLDSBORO 27530
U OF TX-HOUSTON 919 736-2157

GRIFFIN, ASHTON THOMAS, III FP AC
2400 WAYNE MEMORIAL DRIVE 58 58 63
GOLDSBORO 27530
DUKE 919 735-8601

GUPTA, GOOL KAPADIA PUD /IM AC
2704 MEDICAL OFFICE PLACE 66 75 76
GOLDSBORO 27530
MAULANA AZAD 919 736-4724

GUPTA, JAGMOHAN DASS CD /IM AC
2704 MEDICAL OFFICE PLACE 66 66 74
GOLDSBORO 27530
M C OF PUNJAB U 919 736-4724

HARVIN, ALLAN BRABHAM ORS AC
2701 MEDICAL OFFICE PLACE 68 68 76
GOLDSBORO 27530
BOWMAN GRAY 919 736-2157

HAVERKAMP, JOHN D AC
1706 EVERGREEN AVENUE 71 77 81
GOLDSBORO 27530
U OF AMSTERDAM 919 734-0944

HOUSE, RICHARD JAMES OTO AC
P. O. BOX 291 71 71 84
SEVEN SPRINGS 28578
INDIANA U 919 735-9146

HOWARD, CORBETT ETHERIDGE TR /D L
2700 MEDICAL OFFICE PLACE 25 25 27
GOLDSBORO 27530
U OF PENN 919 734-1866

JENNINGS, JOHN LEE, JR. D AC
BOX 1399, 1100 E. ASH ST. 78 83 85
GOLDSBORO 27533
EASTERN VA 919 734-0944

JONNALAGADDA, M. RAO P /PH AC
CHERRY HOSPITAL 64 76 76
CALLER BOX 8000
GOLDSBORO 27530
GUNTUR MED COLL 919 731-3206

KNUTSON, THOMAS MARVIN EM /FP AC
P. O. BOX 10867 79 80 85
GOLDSBORO 27530
U OF MINN 919 731-6060

KOHLI, ASHA KIRAN CHP /PD AC
505 PARKWOOD LANE 72 78 86
GOLDSBORO 27530
GSV MED COLLEGE 919 731-3317

KOKIKO, GEORGE VICTOR PTH /CLP AC
WAYNE COUNTY HOSPITAL 56 56 61
CALLER BOX 8001
GOLDSBORO 27530
BOWMAN GRAY 919 735-1530

KORNEGAY, HERVY BASIL, SR. FP AC
238 SMITH CHAPEL ROAD 57 57 57
MOUNT OLIVE 28365
BOWMAN GRAY 919 658-4954

LAMBERT, JAMES ROYALL FP AC
238 SMITH CHAPEL RD. 78 78 78
MOUNT OLIVE 28365
BOWMAN GRAY 919 658-4954

LIES, STEPHEN CRAIG OBG AC
2400 WAYNE MEM.DR.,STE.K 76 79 81
GOLDSBORO 27530
DUKE 919 734-3344

LONG, RONALD MORGAN AN AC
709 LIONEL ST. 81 81 84
GOLDSBORO 27530
U OF TENNESSEE

LOWNES, MILTON MARKLEY, JR. GP AC
130 N. CENTER STREET 47 51 52
MOUNT OLIVE 28365
U OF LOUISVILLE 919 658-2505

MALEKPOUR, BAHMAN P AC
1708 WAYNE MEMORIAL DR. 64 64 75
PO BOX 1342
GOLDSBORO 27530
U OF HAMBURG 919 734-2222

MANESS, RUBIN FRANKLIN PD /A AC
2706 MEDICAL OFFICE PLACE 76 76 75
GOLDSBORO 27530
U OF NC 919 734-4736

MATUS, SIMON R /NM
PO BOX 983 41 41 72
KIRBYVILLE, TX 75956
U OF CAPE TOWN

MAYS, OLIVER AIKEN PH AC
408 TAYLOR PLACE 45 45 70
GOLDSBORO 27530
MED U OF SC 919 731-1000

MCLAMB, JOSEPH TIMOTHY ORS AC
2701 MEDICAL OFFICE PLACE 67 67 76
GOLDSBORO 27530
U OF NC 919 736-2157

96. WAYNE COMPONENT SOCIETY (Continued)

MCLAMB, SAMUEL BAGGETT, JR. IM AC
201 COX BOULEVARD 75 77 73
GOLDSBORO 27530
BOWMAN GRAY 919 734-9455

MEYER, ROBERT SWENSON FP AC
307 CASHWELL DR. 74 75 79
GOLDSBORO 27530
TEMPLE U 919 658-4954

MILLER, WALTON H., JR. GS /GYN L/RT
1008 E. ASH STREET 41 41 48
GOLDSBORO 27530
U OF CINCINNATI 919 734-1141

MORRIS, JAMES FRANCIS PD AC
P. O. BOX 1153 52 52 57
GOLDSBORO 27530
U OF LOUISVILLE 919 734-4014

MOTAPARTHY, VENKATASOMAIAH C. GE AC
2419-C E. ASH ST. 74 79 84
GOLDSBORO 27530
KARNATAK U 919 731-2526

NATION, ROY GLEN GP /IM AC
407 N. HERMAN STREET 60 65 00
GOLDSBORO 27530
LA STATE U 919 735-6261

NICKENS, LARRY COBB PD AC
2706 MEDICAL OFFICE PLACE 81 84 84
GOLDSBORO 27530
U OF NC 919 734-4736

PARKER, TALBOT FORT, JR. OBG AC
2400 WAYNE MEM. DR. STE K 51 51 57
GOLDSBORO 27530
JEFFERSON 919 734-3344

PATE, WILLIAM HENRY GP AC
P. O. BOX 129 48 49 50
PIKEVILLE 27863
MED COLL OF VA 919 242-5271

PONZI, JOSEPH WILLIAM PD AC
2706 MEDICAL OFFICE PLACE 73 74 81
GOLDSBORO 27530
DOWNSTATE ME CTR 919 734-4736

POWELL, E. CHARLES OBG L
100 WOOTEN POINT ROAD 35 35 37
GOLDSBORO 27530
U OF PENN 919 778-2692

ROCKWELL, DAVID ALLEN ORS AC
2701 MEDICAL OFFICE PLACE 74 74 80
GOLDSBORO 27530
U OF NC 919 736-2157

RUSSELL, DOUGLAS MACARTHUR GS AC
304 GLEN OAK DRIVE 67 67 75
GOLDSBORO 27530
U OF NC 919 734-5010

SASSER, PATRICK HENRY GP AC
100 E. LOCKHAVEN DRIVE 55 55 59
GOLDSBORO 27530
BOWMAN GRAY 919 734-2924

SCHARF, FORREST LARRY CLP /NM AC
WAYNE CO. MEM. HOSP. 56 65 78
CALLER BOX 8001
GOLDSBORO 27530
MCGILL U 919 735-1530

SHACKELFORD, ROBERT HILLIARD FP AC
238 SMITH CHAPEL ROAD 47 48 50
MOUNT OLIVE 28365
BOWMAN GRAY 919 658-4954

STACKHOUSE, WILLIAM JAMES IM
201 COX BLVD. 76 77 81
GOLDSBORO 27530
EMORY U 919 734-9455

STOCKDALE, WAYNE HARROP EM /GS AC
2700 WAYNE MEM. DR. 45 52 53
GOLDSBORO 27530
U OF LOUISVILLE 919 736-1110

STRICKLAND, NIGEL JOHN DR AC
2700 MEDICAL OFFICE PLACE 59 70 78
GOLDSBORO 27530
CAMBRIDGE U 919 734-1866

TAYLOE, DAVID THOMAS, JR. PD AC
2706 MEDICAL OFFICE PLACE 74 76 77
GOLDSBORO 27530
U OF NC 919 734-4736

TEASLEY, BARRY HOYLE OPH AC
P. O. BOX 10907 78 82 75
103 COX BLVD.
GOLDSBORO 27532
U OF NC 919 734-8440

THOMPSON, WINFIELD LYNN GS L/RT
216 S. HILLCREST DRIVE 38 38 46
GOLDSBORO 27530
U OF MARYLAND 919 734-2610

TRACHTENBERG, WILLIAM GP L/RT
239 S. HILLCREST DRIVE 39 46 47
GOLDSBORO 27530
DUKE 919 734-0956

TURNER, WILLIAM BOMAR, III U AC
1604 E. MULBERRY ST. 80 81 85
GOLDSBORO 27530
MED U OF SC 919 735-1635

TYNDALL, HUBERT DURWOOD GP AC
2400 WAYNE MEMORIAL DRIVE 54 54 56
GOLDSBORO 27530
U OF NC 919 734-4845

VARNEY, DAVID ALLEN U /GS AC
305 WILLOW PLACE 68 69 76
GOLDSBORO 27530
GEORGETOWN U 919 778-6549

WILKINS, KENNETH WORTH AC
P. O. BOX 1977 44 45 48
GOLDSBORO 27530
U OF MARYLAND 919 735-1253

WILSON, A. ROSS, JR. OTO AC
401 N. HERMAN ST. 74 75 79
GOLDSBORO 27530
TEMPLE U 919 735-9146

†ZEALY, A. H. GP L/RT
105 N. CLAIRBORNE 30 32 34
GOLDSBORO 27530
HARVARD 919 734-1534

ZWERLING, CHARLES SAMUEL OPH /A AC
WHISPERING PINE ACRES 77 81 82
ROUTE #9, BOX 241-0
GOLDSBORO 27530
U OF BOLOGNA 919 778-2266

97. WILKES COMPONENT SOCIETY

OFFICERS—**President:** Jack Dawson, M.D., 230 10th St., P.O. Box 1264, N. Wilkesboro 28659 (919 838-3342)
Secretary: Craig R. Bennett, M.D., NW ORS Assoc., #3 Medical Arts Bldg., N. Wilkesboro 28659 (919 667-5039)

BAUGHAM, ILA EVANS PD AC
DOCTOR'S BLDG., 8TH ST. 79 82 79
PO BOX 309
NORTH WILKESBORO 28659
BOWMAN GRAY 919 838-7466

BAUGHAM, LEONARD ANDREW GS AC
P. O. BOX 1146 75 76 84
NORTH WILKESBORO 28659
MED COLL OF GA 919 667-4718

BENNETT, CRAIG RANDALL ORS AC
MEDICAL ARTS BLDG. 81 84 81
NORTH WILKESBORO 28659
U OF NC 919 667-5039

BENNETT, JOHN NORTHWOOD R AC
ROUTE #1, BOX 96 47 51 53
MORAVIAN FALLS 28654
MCGILL U 919 838-3896

BOND, JOHN LAWRENCE, JR. GS /ORS AC
P. O. BOX 1128 54 60 60
N. WILKESBORO 28659
U OF TENNESSEE 919 838-4789

BRYAN, THOMAS RHUDY, JR. PD /OBS AC
MEDICAL ARTS BUILDING 54 54 56
P. O. BOX 1163
NORTH WILKESBORO 28659
BOWMAN GRAY 919 838-2500

BUNDY, WILLIAM LUMSDEN IM /GP L
DOCTORS BLDG. 36 36 40
PO BOX 786
N. WILKESBORO 28659
VANDERBILT U 919 838-2442

COMPEAU, PHILLIP E. C. IM AC
1710 PARKWOOD DR.,SOUTH 71 72 78
WILKESBORO 28697
HARVARD 919 667-1285

GROVES, ROBERT BLAINE R AC
RT. #1, BOX 275-B 64 64 86
PURLEAR 28665
U OF LOUISVILLE 919 651-8100

HAWKINS, HAL BURGESS FP AC
11 GREEN WAY 53 53 55
WILKESBORO 28697
CASE WESTERN RES 919 838-3491

HAYES, WILLIAM CLAYTON GP AC
P. O. BOX 540 47 48 50
WILKESBORO 28697
BOWMAN GRAY 919 667-6871

KILBY, LARRY SHELTON FP /GER AC
505 13TH ST. 68 68 74
LOFLAND BLDG.
NORTH WILKESBORO 28659
BOWMAN GRAY 919 667-3922

LANDON, HENRY CLAYTON,III FP /IM AC
501 TENTH STREET 47 49 50
NORTH WILKESBORO 28659
U OF VIRGINIA 919 838-5761

MCMAHAN, THOMAS KEITH IM /FP AC
PO BOX 976 70 70 74
1710 PARKWOOD DR.NORTH
WILKESBORO 28697
WASHINGTON U 919 667-2634

OLIVER, JOHN GLADSON OPH AC
408 EIGHTH STREET 75 76 81
NORTH WILKESBORO 28659
U OF MIAMI 919 838-5121

SMITH, DUANE HOWARD OBG AC
1018 RIVER ROAD 58 58 77
WILKESBORO 28697
U OF CINCINNATI 704 667-8241

SONEK, MOJMIR JIRI OBG AC
C/O BRUSHY MOUNTAIN OB-GYN 79 83 85
MEDICAL ARTS BLDG.
NORTH WILKESBORO 28659
U OF OTTAWA 919 634-0051

WATSON, JERRY FRANKLIN GS AC
EIGHTH ST. 60 60 73
PO BOX 789
N. WILKESBORO 28659
U OF TENNESSEE 919 667-1183

WHICKER, CHARLES FINCH OBG AC
BRUSHY MTN. OB-GYN ASSOC. 51 58 59
MEDICAL ARTS BLDG.
N. WILKESBORO 28659
TEMPLE U 919 667-1156

98. WILSON COMPONENT SOCIETY

OFFICERS—**President:** Jerry C. Woodard, M.D., 1700 S. Tarboro St., Wilson 27893 (919 291-1300)
Secretary: Thomas E. Hooper, M.D., 1901 S. Tarboro St., Wilson 27893 (919 243-5505)

ADAMS, LEON ASHBY OTO AC 46 52 74
1700 S. TARBORO ST.
WILSON 27893
U OF VIRGINIA 919 291-1300

ANDERSON, DUDLEY BUIST ON /HEM AC 64 64 73
1700 S. TARBORO ST.
WILSON 27893
U OF VIRGINIA 919 291-1300

ANDERSON, KENT THOMAS IM AC 82 83 81
1704 S. TARBORO ST.
WILSON 27893
EAST CAROLINA U 919 291-7001

APPERT, ROBERT ALBERT ORS AC 71 72 78
1700 S. TARBORO STREET
WILSON 27893
ALBANY MED COLL 919 291-1300

BELL, GEORGE ERICK, JR. ORS AC 48 48 57
WILSON CLINIC
WILSON 27893
HARVARD 919 291-7001

BERGERON, JOSEPH CHARLES, JR. PTH AC 74 74 83
102 WILSHIRE BOULEVARD
WILSON 27893
LA STATE U 919 399-8114

BOHNSACK, MICHAEL ROBERT AN AC 81 82 85
3305 MILLBROOK DR.
WILSON 27893
M C OF WISCONSIN 919 291-1700

BOWEN, MICHAEL LYNN FP AC 77 77 81
P. O. BOX 310
STANTONSBURG 27883
INDIANA U 919 238-2101

BOWERS, SCOTT P. OPH AC 79 79 83
#5 SILVER LAKE VILLAS
WILSON 27893
INDIANA U 919 291-1300

BOYD, DEBORAH DAETWYLER GS AC 77 77 77
1704 S. TARBORO ST.
WILSON 27893
U OF NC 919 291-7001

BREZINA, EDWARD SHARP, JR. OBG AC 75 77 82
1911 CANAL DRIVE
WILSON 27893
U OF MIAMI

BRINKMAN, DENNIS MICHAEL AN AC 71 72 80
1203 GREENBRIAR COURT
WILSON 27893
U OF MICHIGAN 919 291-1700

BULLARD, HOKE VOGLER, JR. IM AC 51 51 58
WILSON CLINIC
WILSON 27893
HARVARD 919 291-7001

BURBA, ALONZO RICHARD FP AC 76 79 80
1700 S. TARBORO ST.
WILSON 27893
U OF OKLAHOMA 919 291-1300

BURDICK, RICHARD LAWRENCE IM AC 75 83 86
1704 S. TARBORO ST.
WILSON 27893
U OF VIRGINIA 919 291-7001

BURNETTE, J. P. IM AC 75 75 80
ENGLEWOOD DR., KENLY CLI.
KENLY 27542
BOWMAN GRAY 919 284-5151

BUSCH, JAMES R. PD AC 72 75 84
1700 S. TARBORO ST.
WILSON 27893
MED COLL OF VA 919 291-4370

CAMPBELL, JOSEPH LESTER GPM /PH L 35 35 56
306 FOREST HILLS ROAD
WILSON 27893
U OF PENN 919 291-8523

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Ashe Memorial Hospital, Inc.
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IN MEMORIAM

Deaths reported to the NCMS office as of June 30, 1987

Anderson, Robert Allen, Ahoskie — 11-26-86
Andrews, Vernon Liles, Mt. Gilead — 5-20-87
Anthony, William Augustus, Gastonia — 6-6-86
Bailey, Joseph Peden, Flat Rock — 12-2-86
Barber, Tracy Ezra, Jr., Winston-Salem — 4-10-87
Barefoot, Sherwood Washington, Sr., Greensboro — 4-20-87
Best, DeLeon Edward, Goldsboro — 8-21-86
Bumgardner, Heath Denton, Dunn — 12-5-86
Caldwell, Eston Robert, Jr., Statesville — 12-21-86
Callison, Caroline H., Clinton — 1986
Chandler, Ernest T., Richlands — 6-4-86
Cheek, Kenneth Maurice, New London — 7-12-86
Chidester, Augustus Benjamin, Hendersonville — 1-14-87
Clark, Perry Belton, Winston-Salem — 11-30-86
Codnere, John Thomas, Black Mt. — 5-17-87
Coleman, Julian Barrus, Kinston — 6-8-86
Cone, Donald Frank, Greensboro — 7-5-87
Coughlin, Joyce Desmond, Asheville — 4-23-87
Crane, George L., Durham — 3-23-87
Creed, George O., Laurinburg — 1987
Dailey, Martel Jennings, Williamston — 8-13-86
Dewar, William B., Rocky Mt., VA — 5-3-87
Durante, Spencer Emanuel, Jr., Charlotte — 3-19-87
Elliott, John Palmer, Rockingham — 4-6-87
Floyd, William Russel, Spartanburg, SC — 12-15-86
Foster, Malcolm Tennyson, Sr., Fayetteville — 1-25-87
Fuller, Henry Fleming, Kinston — 10-3-86
Glenn, Charles Arthur, Gastonia — 1-4-87
Gobble, Fleetus Lee, Jr., Winston-Salem — 11-15-86
Goley, Willard Coe, Graham — 6-1-86
Hanes, Gideon Isaac, Jr., Winston-Salem — 2-2-87
Harbach, Francis Oliver, Fayetteville — 9-29-86
Harris, Isaac Emerson, Jr., Durham — 5-17-87
Hawes, G. Aubrey, Charlotte — 2-19-87
Hendrix, James Paisley, Greensboro — 1987
Hubbard, Frederick Cecil, North Wilkesboro — 7-9-86
James, Arthur Augustus, Jr., Sanford — 9-21-86
Kapp, Constaintine Hege, Winston-Salem — 7-29-86
Kouri, Moses Lawrence, Jr., Charlotte — 3-21-87
Lawrence, Benjamin Jones, Sr., Mt. Airy — 10-5-86
Love, J. Grafton, Rochester, MN — 5-29-87
McAlister, Jean C., Greensboro — 7-3-87
McBryde, Angus Murdoch, Sr., Durham — 9-16-86
Minges, Ray Donald, Greenville — 1-19-87
Montgomery, John Christian, Charlotte — 4-13-87
Morgan, Roy Lockwood, Columbus — 1-19-87
Naso, Stephen J., Sr., Charlotte — 9-22-86
Padgett, Charles King, Shelby — 9-12-86
Peschel, Ernst, Durham — 1-3-87
Peschel, Ruth Lohmann, Durham — 12-29-86
Prevette, John Edgar, Smithfield — 4-26-87
Richardson, William Perry, Chapel Hill — 4-14-87
Richman, Samuel, Greensboro — 6-5-87
Robertson, John Kenneth, Sanford — 6-25-86
Shaw, John Alexander, Fayetteville — 3-23-87
Smedberg, George Andrew, Burlington — 4-10-87
Stuart, John James, Pfafftown — 8-24-86
Summerlin, Harry Holler, Sr., Laurinburg — 10-25-86
Thomas, David Pryse, Wilmington — 5-20-87
Vala, M. Sylvester, Raleigh — 1986
Weathers, Harry Huntington, Roanoke Rapids — 1987
Weizenblatt, Sprinza, Asheville — 4-5-87
Westfall, Arlie H., Lumberton — 5-23-87
Worde, Boyd T., Durham — 3-19-87
Wyatt, William M., Asheville — 10-22-86
Zealy, A. H., Goldsboro — 5-23-87
Zulick, Philip Diefenderfer, Bat Cave — 11-28-86

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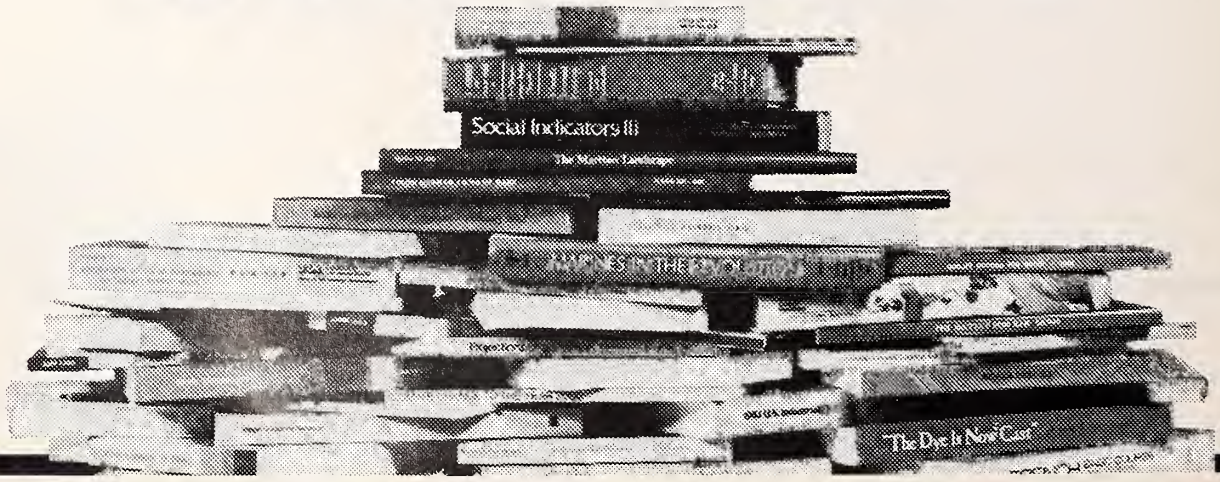
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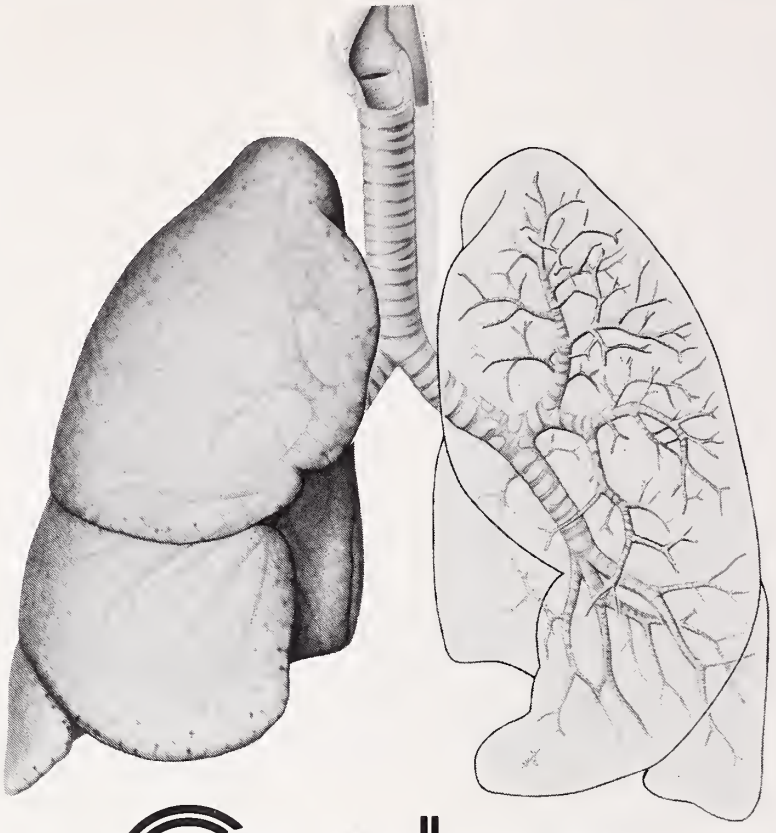
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Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Summary. Consult the package literature for prescribing information.

Indications: Lower respiratory infections, including pneumonia, caused by susceptible strains of *Streptococcus pneumoniae, Haemophilus influenzae,* and *Streptococcus pyogenes* (group A β-hemolytic streptococci).

Contraindication.
Known allergy to cephalosporins.

Warnings:
CECLOR SHOULO BE ADMINISTEREO CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUOE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:
- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)
Therapy-related adverse reactions are uncommon. Those reported include:
- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, and serum-sickness-like reactions that have included erythema multiforme [rarely, Stevens-Johnson syndrome] or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever): 1.5%; usually subside within a few days after cessation of therapy. Serum-sickness-like reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%; and, rarely, thrombocytopenia.

Abnormalities in laboratory results of uncertain etiology
- Slight elevations in hepatic enzymes.
- Transient fluctuations in leukocyte count (especially in infants and children).
- Abnormal urinalysis; elevations in BUN or serum creatinine.
- Positive direct Coombs' test.
- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest® tablets but not with Tes-Tape® (glucose enzymatic test strip, Lilly).

[072886R]

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Please see summary of product information on adjacent page.

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In moderate depression and anxiety:

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- Earlier relief of associated somatic complaints[2]
- Fewer dropouts due to side effects—only ⅓ the rate of those patients taking amitriptyline, although the incidence of side effects is comparable[1]
- Fast improvement with less amitriptyline—⅓ to ½ the dose of patients taking amitriptyline alone[3]

Caution patients about the combined effects of Limbitrol with alcohol or other CNS depressants and about activities requiring complete mental alertness, such as operating machinery or driving a car. In general, limit dosage to the lowest effective amount in elderly patients.



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Limbitrol®

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Limbitrol® DS

Each tablet contains 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) (IV)

PROTECT YOUR DECISION. WRITE "DO NOT SUBSTITUTE

References: 1. Feighner JP, *et al: Psychopharmacology* 61:217-225, Mar 22, 1979. **2.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **3.** Dixon R, Cohen J: *J Clin Psychopharmacol* 3:107-109, Apr 1983.

Limbitral® (IV)
Tranquilizer—Antidepressant
Before prescribing, please consult complete product information, a summary of which follows:
Indications: Relief of moderate to severe depression associated with moderate to severe anxiety.
Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use; then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.
Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage; withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline; symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).
Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady state concentrations of the tricyclic drugs. Concomitant use of Limbitrol with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.
The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:
Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.
Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomonia and increased or decreased libido.
Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.
Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.
Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.
Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.
Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.
Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and mine menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion.
Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.
Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestations and treatment.
Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single h.s. dose may suffice for some patients. Lower dosages are recommended for the elderly.
Limbitrol DS (double strength) Tablets, initial dosage of three or four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required. Limbitrol Tablets, initial dosage of three or four tablets daily in divided doses, for patients who do not tolerate higher doses.
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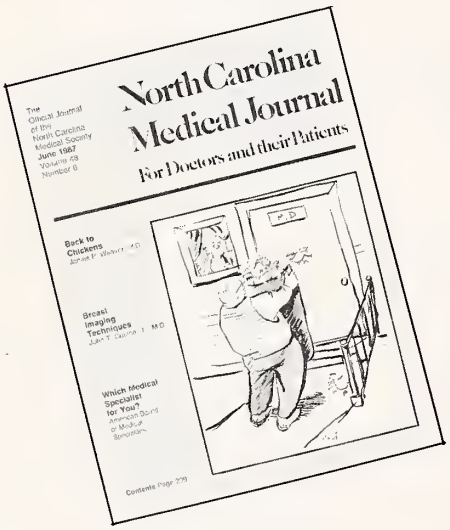
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References: 1. Flomenbaum W: *Am J Cardiol 57*(2):38A-43A, 1986. **2.** Brater DC, Fax WR, Chennavasin P: *J Clin Pharmacol 21*:599-603, 1981. **3.** Iber FL, Baum RA: *J Clin Pharmacol 21*:697-700, 1981. **4.** Henning R, Lundvall O: *Eur J Clin Pharmacol 6*:224-227, 1973. **5.** Physicians' Desk Reference, 40th ed. Oradell, NJ, Medical Economics Company, 1986, pp. 939, 1480. **6.** Pentikainen PJ, *et al: Br J Clin Pharmacol 4*:39-44, 1977. **7.** *Lasix, A Review.* Somerville, NJ, Hoechst-Roussel Pharmaceuticals, Inc., 1980.

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INDICATIONS AND USAGE: Edema associated with congestive heart failure, hepatic and renal disease, including the nephratic syndrome.
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WARNINGS: Dose should be adjusted to patient's needs. Excessive doses or too frequent administration can lead to profound water loss, electrolyte depletion, dehydration, reduction in blood volume and circulatory collapse with the possibility of vascular thrombosis and embolism, particularly in elderly patients.
Prevention of hypokalemia requires particular attention in patients receiving digitalis and diuretics for congestive heart failure, hepatic cirrhosis and ascites, states of aldosterone excess with normal renal function, potassium-losing nephropathy, certain diarrheal states, or other states where hypokalemia is thought to represent particular added risk to the patients.
In patients with hepatic cirrhosis and ascites, sudden alterations of electrolyte balance may precipitate hepatic encephalopathy and coma. Treatment in such patients is best initiated in the hospital with small doses and careful monitoring of the patient's clinical status and electrolyte balance. Supplemental potassium and/or spironolactone may prevent hypokalemia and metabolic alkalosis in these patients.
In cats, dogs and guinea pigs, Bumex has been shown to produce ototoxicity. Since Bumex is about 40 to 60 times as potent as furosemide, it is anticipated that blood levels necessary to produce ototoxicity will rarely be achieved. The potential for ototoxicity increases with intravenous therapy, especially at high doses.
Patients allergic to sulfonamides may show hypersensitivity to Bumex.
PRECAUTIONS: Measure serum potassium periodically and add potassium supplements or potassium-sparing diuretics, if necessary. Periodic determinations of other electrolytes are advised in patients treated with high doses or for prolonged periods, particularly in those on low salt diets.
Hyperuricemia may occur. Reversible elevations of the BUN and creatinine may occur, especially with dehydration and in patients with renal insufficiency. Bumex may increase urinary calcium excretion.
Possibility of effect on glucose metabolism exists. Periodic determinations of blood sugar should be done, particularly in patients with diabetes or suspected latent diabetes.
Patients should be observed regularly for possible occurrence of blood dyscrasias, liver damage or idiosyncratic reactions.
Especially in presence of impaired renal function, use of parenterally administered Bumex should be avoided in patients to whom aminoglycoside antibiotics are also being given, except in life-threatening conditions.
Drugs with nephrotoxic potential and bumetanide should not be administered simultaneously.
Since lithium reduces renal clearance and adds a high risk of lithium toxicity, it should not be given with diuretics.
Probenecid should not be administered concurrently with Bumex.
Concurrent therapy with indomethacin not recommended.
Bumex may potentiate the effects of antihypertensive drugs, necessitating reduction in dosage.
Interaction studies in humans have shown no effect on digoxin blood levels.
Interaction studies in humans have shown Bumex to have no effect on warfarin metabolism or on plasma prothrombin activity.
Pregnancy: Bumex should be given to a pregnant woman only if the potential benefit justifies the potential risk to the fetus.
Bumetanide may be excreted in breast milk.
Pediatric Use: Safety and effectiveness below age 18 not established.
ADVERSE REACTIONS: Muscle cramps, dizziness, hypotension, headache and nausea, and encephalopathy (in patients with preexisting liver disease).
Less frequent clinical adverse reactions are weakness, impaired hearing, rash, pruritus, hives, electrocardiogram changes, abdominal pain, arthritic pain, musculoskeletal pain and vomiting.
Other clinical adverse reactions are vertigo, chest pain, ear discomfort, fatigue, dehydration, sweating, hyperventilation, dry mouth, upset stomach, renal failure, asterixis, itching, nipple tenderness, diarrhea, premature ejaculation and difficulty maintaining an erection.
Laboratory abnormalities reported are hyperuricemia, azotemia, hyperglycemia, increased serum creatinine, hypochloremia, hypokalemia, hyponatremia, and variations in CO_2 content, bicarbonate, phosphorus and calcium. Although manifestations of the pharmacologic action of Bumex, these conditions may become more pronounced by intensive therapy.
Diuresis induced by Bumex may also rarely be accompanied by changes in LDH, total serum bilirubin, serum proteins, SGOT, SGPT, alkaline phosphatase, cholesterol, creatinine clearance, deviations in hemoglobin, prothrombin time, hematocrit, platelet counts and differential counts. Increases in urinary glucose and urinary protein have also been seen.
DOSAGE AND ADMINISTRATION:
Oral Administration: The usual total daily dosage is 0.5 to 2.0 mg and in most patients is given as a single dose.
Parenteral Administration: Administer to patients (IV or IM) with GI absorption problem or who cannot take oral. The usual initial dose is 0.5 to 1 mg given over 1 to 2 minutes. If insufficient response, a second or third dose may be given at 2 to 3 hour intervals up to a maximum of 10 mg a day.
HOW SUPPLIED: *Tablets,* 0.5 mg (light green), 1 mg (yellow) and 2 mg (peach), bottles of 100 and 500; Prescription Paks of 30; Tel-E-Dose® cartons of 100. Imprint on tablets: 0.5 mg—ROCHE BUMEX 0.5; 1 mg—ROCHE BUMEX 1; 2 mg—ROCHE BUMEX 2.
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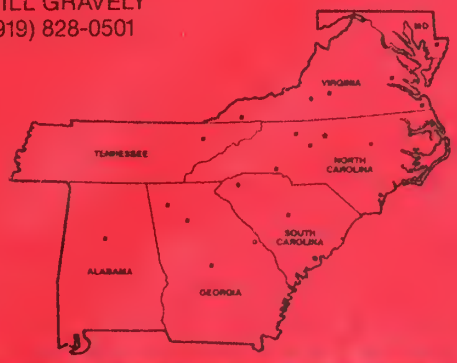
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September 1987
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North Carolina Medical Journal

For Doctors and their Patients

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Run for the Roses
Kenneth J. Welch

AIDS: Report of the AMA Board of Trustees
Alan R. Nelson

The Open Door Medical Clinic
Don Lucey, M.D.
and Sheila Parker, Ph.D.

The Names and Faces of Medicine
Francis A. Neelon, M.D.

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Dr. Craige believes people are more important than horses. See "Run for the Roses," page 453.

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For Doctors and their Patients

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Eugene A. Stead, Jr., M.D.
Rt. 1, Box 194, Bullock
EDITOR
919/693-4531

Francis A. Neelon, M.D.
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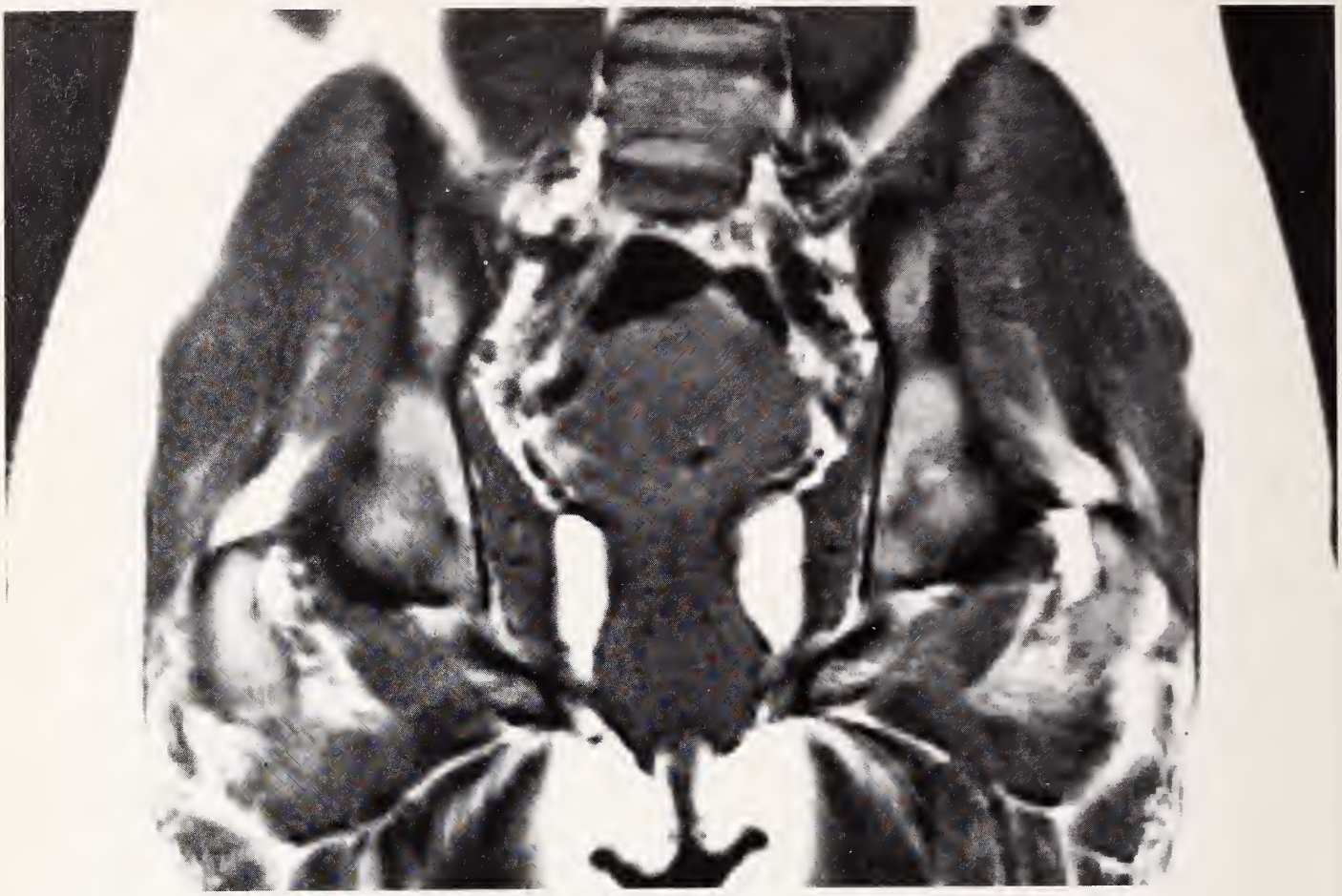
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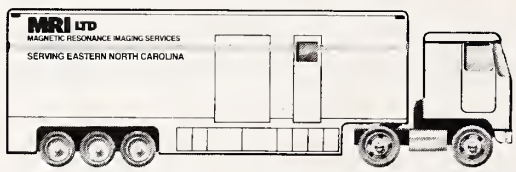
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North Carolina Medical Journal

FOR DOCTORS AND THEIR PATIENTS

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The patients in the nationwide compliance trial were no different from yours. Generally when the antihypertensive regimen is complicated, compliance may become a problem. So, the effectiveness of INDERAL LA as once-daily monotherapy is a big plus. Of the remaining hypertensives in the program, 36% were treated merely with the addition of a diuretic to INDERAL LA.

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Like conventional INDERAL Tablets, INDERAL LA should not be used in the presence of congestive heart failure, sinus bradycardia, cardiogenic shock, heart block greater than first degree, and bronchial asthma.

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BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR.)*

INDERAL® LA brand of propranolol hydrochloride **(Long Acting Capsules)**

DESCRIPTION. INDERAL LA is formulated to provide a sustained release of propranolol hydrochloride. INDERAL LA is available as 60 mg, 80 mg, 120 mg, and 160 mg capsules.

CLINICAL PHARMACOLOGY. INDERAL is a nonselective, beta-adrenergic receptor-blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor-stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta-adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (60, 80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL Tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg-for-mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension; it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock, 2) sinus bradycardia and greater than first-degree block; 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.



WARNINGS. CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following *abrupt* discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned, the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, eg, dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta blockers should be used with caution in diabetic patients if a beta-blocking agent is required. Beta blockers may mask tachycardia occurring with hypoglycemia, but other manifestations such as dizziness and sweating may not be significantly affected. Following insulin-induced hypoglycemia, propranolol may cause a delay in the recovery of blood glucose to normal levels.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol may change thyroid function tests, increasing T_4 and reverse T_3, and decreasing T_3.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case, this resulted after an initial dose of 5 mg propranolol.

PRECAUTIONS. GENERAL: Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

CLINICAL LABORATORY TESTS: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Caution should be exercised when patients receiving a beta blocker are administered a calcium-channel-blocking drug, especially intravenous verapamil, for both agents may depress myocardial contractility or atrioventricular conduction. On rare occasions, the concomitant intravenous use of a beta blocker and verapamil has resulted in serious adverse reactions, especially in patients with severe cardiomyopathy, congestive heart failure or recent myocardial infarction.

Aluminum hydroxide gel greatly reduces intestinal absorption of propranolol.

Ethanol slows the rate of absorption of propranolol.

Phenytoin, phenobarbitone, and *rifampin* accelerate propranolol clearance.

Chlorpromazine, when used concomitantly with propranolol, results in increased plasma levels of both drugs.

Antipyrine and *lidocaine* have reduced clearance when used concomitantly with propranolol.

Thyroxine may result in a lower than expected T_3 concentration when used concomitantly with propranolol.

Cimetidine decreases the hepatic metabolism of propranolol, delaying elimination and increasing blood levels.

Theophylline clearance is reduced when used concomitantly with propranolol.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

PREGNANCY: Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose. There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

NURSING MOTHERS: INDERAL is excreted in human milk. Caution should be exercised when INDERAL (propranolol HCl) is administered to a nursing woman.

PEDIATRIC USE: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: Bradycardia, congestive heart failure, intensification of AV block; hypotension; paresthesia of hands; thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type.

Central Nervous System: Light-headedness; mental depression manifested by insomnia, lassitude, weakness, fatigue; reversible mental depression progressing to catatonia; visual disturbances; hallucinations; vivid dreams; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics. For immediate formulations, fatigue, lethargy, and vivid dreams appear dose related.

Gastrointestinal: Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: Pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory: Bronchospasm.

Hematologic: Agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: Alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily. If patients are switched from INDERAL Tablets to INDERAL LA Capsules, care should be taken to assure that the desired therapeutic effect is maintained. INDERAL LA should not be considered a simple mg-for-mg substitute for INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitration may be necessary, especially to maintain effectiveness at the end of the 24-hour dosing interval.

HYPERTENSION—*Dosage must be individualized.* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood-pressure control is achieved. The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage of 640 mg may be required. The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three- to seven-day intervals until optimal response is obtained. Although individual patients may respond at any dosage level, the average optimal dosage appears to be 160 mg once daily. In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

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REFERENCES:

1. INDERAL LA National Compliance Evaluation Program. Data on file, Ayerst Laboratories.
2. Ravid M, Lang R, Jutrin I: The relative antihypertensive potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily. *Arch Intern Med* 1985; 145:1321-1323.

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Cutaneous Infections of the Coast

William A. Burke, M.D., and Billy E. Jones, M.D.

An infection that develops from a wound obtained in an aquatic environment should alert the physician to a variety of possible etiologic organisms not typically seen in everyday practice. Although most infections resulting from aquatic injuries are due to commonly seen organisms (such as *Staphylococcus*),[1] it is important to be aware of less common infectious agents, since some of them may have a rapidly progressive course leading to death.

The coast of North Carolina provides limitless possibilities for both recreational and commercial activities, and many diseases which are quite rare in many parts of the country actually occur quite frequently here.

Erysipelothrix rhusiopathiae

Erysipeloid is, as the name implies, an erysipelas-like infection caused by *Erysipelothrix rhusiopathiae*. This bacterium is a gram-positive pleomorphic rod which may be confused with diptheroids or *Listeria* in the laboratory. *Erysipelothrix* is widely distributed throughout the environment including fresh and salt water. In some animals, it is found as part of their normal flora; in others (e.g., swine) it may be pathogenic. Occupational groups at risk include fishermen, fish handlers, seafood processors, veterinarians, poultry workers, butchers and farmers. On our coast, erysipeloid is colloquially known as "fish poisoning," "crab poisoning," or "shrimp-pickers' disease."

Erysipelothrix can cause localized or, rarely, disseminated disease.[2] In localized disease, the cutaneous eruption begins several days after inoculation, most commonly on the hands. The skin lesions are usually bright red, well-demarcated plaques (figure 1, p. 423) which may burn or itch. The localized disease is unlike erysipelas in that constitutional signs and symptoms (such as fever, chills, and malaise) are usually not present.

Disseminated erysipeloid, unlike the localized form, is usually associated with fever, and blood cultures are often positive. Because endocarditis can be a serious complication,[3] a careful cardiac examination is imperative. In this form of the disease, skin lesions are not always seen, and a careful occupational/recreational history may provide an important clue to the etiology. Disseminated *Erysipelothrix* may also lead to other problems such as septic arthritis, intracranial abscess and pulmonary involvement.[2]

Although the organism can usually be cultured from the blood of bacteremic patients, it often loses its cell wall in tissue (to form L-forms), perhaps explaining difficulties in culturing it from skin lesions.[2] Diagnosis of localized infection is usually made on the basis of an appropriate clinical picture in a person at risk.

Erysipeloid, like erysipelas, is treated with penicillin, or in the penicillin-allergic patient, erythromycin. Intravenous therapy with penicillin is recommended for disseminated disease.[2] Although the localized form of the disease may be self-limited, antibiotic therapy is generally recommended to prevent progression of the disease into bacteremia with possible endocarditis or other sequellae.

Mycobacterium marinum

Mycobacterium marinum is one of the atypical mycobacteria, and because of its ability to produce a yellowish pigment when exposed to light, it is grouped with the photochromogens (Runyon Group I). The bacterium is acid-fast and grows optimally at 32°C in about 7 to 14 days. Because it does not grow well at 37°C, a false-negative culture may occur if the laboratory routinely incubates cultures only at this temperature. This psychrophilia probably explains the rarity of internal dissemination seen with this organism.

Mycobacterium marinum is found in both fresh and salt water, and the cutaneous lesion is commonly called a "swimming pool granuloma" or "fish tank granuloma." The initial lesion typically begins as an erythematous papule occurring in a traumatized area (e.g., abrasion, crab bite, fish spine injury). This enlarges over three to eight weeks to a nodule which often has a verrucous appearance (figure 2, p. 423). At times, additional lesions appear along lymphatics in a sporotrichoid pattern,[4] and, rarely, bone and joint involvement may occur.[5,6]

A biopsy of the lesion is usually required to accurately diagnose *Mycobacterium marinum*. The tissue specimen should be submitted for both routine histology and culture.

From the Section of Dermatology, Department of Internal Medicine, East Carolina University School of Medicine, Greenville 27858-4354. Reprint requests to: William A. Burke, M.D.

Again, it is important to alert the laboratory that this organism is suspected in order to ensure that incubation is done at both 32°C and 37°C. Histopathology most commonly reveals tuberculoid granulomas with minimal caseation and sparse organisms.

Therapy of this infection may be difficult. The drug of choice in adults is minocycline (100 mg BID),[7] although some prefer tetracycline (500 mg QID)[8,9] or doxycycline (100 mg BID). Alternative therapies include rifampin (often combined with ethambutol) or trimethoprim-sulfamethoxazole. Because the organism prefers cooler temperatures, heat therapy (e.g., hot water soaks) may be an important adjunct to antibiotic therapy.

Therapy should be continued for several weeks after clinical improvement, since early withdrawal of antibiotics may lead to relapse. For a single localized lesion, excision, electrosurgery, or cryosurgery may be curative.

Aeromonas hydrophila

Aeromonas hydrophila is a gram-negative rod which is ubiquitous in nature and is found in both fresh and salt water. The organism was initially thought to be pathogenic only in fish, and on our coast it was thought to be the cause of "red sore" disease in striped bass. *Aeromonas* is now known to be an uncommon but sometimes serious pathogen, not only in immunocompromised patients, but also in healthy subjects. Although a self-limited cholera-like diarrhea is the most common presentation of *Aeromonas* infection, the bacterium can also cause a necrotizing cellulitis (figure 3).

As with gastrointestinal infections, most primary inoculation skin and soft tissue infections remain localized in the healthy subject. However, in immunosuppressed and agranulocytic patients, there may be rapid progression to myonecrosis, gas gangrene, and septicemia.[10] Patients with leukemia and liver disease are especially at risk.[11] Ecthyma gangrenosum-like lesions can occur in disseminated *Aeromonas* infections.[12,13]

Laboratory cultures of cutaneous and soft tissue infections due to this organism are often mixed (commonly with *Staphylococcus*). Although *Aeromonas hydrophila* can be grown in 12 to 24 hours on conventional media, proper laboratory identification may be missed because of biochemical similarities to the Enterobacteriaceae. Again, it becomes important to consider this unusual infection in the appropriate clinical setting and to alert the laboratory to your suspicions so that proper identification can be made. Unlike the Enterobacteriaceae, *Aeromonas hydrophila* is oxidase positive.

Initial therapy of cutaneous wound infection due to *Aeromonas* involves incision, drainage, exploration, and cleansing of affected tissue. Because many *Aeromonas* infections are mixed, trimethoprim-sulfamethoxazole is an appropriate therapy in a healthy patient, as most *Aeromonas* strains are sensitive to this drug. In an immunocompromised or bacteremic patient, imipenem-cilastatin or a third-generation cephalosporin with an aminoglycoside are administered parenterally. The organism is also usually sensitive to the tetracyclines and chloramphenicol.[11,14,15]

Vibrio vulnificus

Although several of the halophilic Vibrios (e.g., *Vibrio parahaemolyticus, Vibrio cholerae* non 0-1, *Vibrio alginolyticus*) have been isolated from wound infections, *Vibrio vulnificus* is the most common cause of serious illness associated with *Vibrio* species in this country.[16,17] In 1979, the bacterium received its present name,[18] and since then, infections due to this organism have been recognized from a wide variety of coastal and brackish water environments including the North Carolina coast.

There are two forms of the disease: (1) primary septicemia and (2) wound infections. In patients with primary septicemia, there is often a history of eating raw seafood (usually oysters)[19-21] and the infection is presumed to be acquired through the gastrointestinal tract. Hypotension with shock is a common presentation. Septicemia due to *Vibrio vulnificus* is more common in persons with underlying liver disease, blood disorders, chronic renal disease, or hemochromatosis, in patients on immunosuppressive agents, and in heavy consumers of alcohol.[20,21] Patients with septicemia from this bacterium can display a wide variety of dermatologic manifestations including petechiae, purpura, necrotic pustules and bullous lesions (figure 4). As with *Aeromonas,* the cutaneous lesions may mimic ecthyma gangrenosum.

Mortality from septicemia with this organism is about 50%. Once again, it is imperative to consider the diagnosis in the appropriate clinical setting. Furthermore, it is important to educate patients with risk factors about the potential risks of eating raw or undercooked seafood.[19-21]

Penetrating injuries associated with exposure to sea water may also lead to a wound infection due to *Vibrio vulnificus*. Many patients have developed infection following lacerations that occurred while they were cleaning fish, crabs or shrimp, or shucking oysters or other shellfish. A cellulitis usually develops within one to two days following inoculation, and because of the tremendous virulence of the organism, may quickly progress to a necrotizing fasciitis, myositis or gangrene. Risk factors for internal dissemination and septicemia are similar to those for primary septicemia.

Treatment of wound infections due to *Vibrio vulnificus* includes incision, drainage and aggressive local débridement. Tetracycline is the drug of choice in the healthy patient with a mild, uncomplicated wound infection. In patients who have significant risk factors or who present with disseminated disease, parenteral tetracycline and an aminoglycoside are recommended.[16] The organism is also usually responsive to chloramphenicol, the penicillins and the cephalosporins.[16,17,22]



Figure 1. Erysipeloid in a common location.



Figure 3. Necrotizing cellulitis and myonecrosis of the thigh due to *Aeromonas hydrophila*. The patient, a coastal logger, had acute myelogenous leukemia and died from overwhelming sepsis.



Figure 2. Verrucous lesion due to *Mycobacterium marinum* which developed after a crab bite injury.



Figure 4. Bullous lesion on the ankle due to *Vibrio vulnificus* septicemia in a patient with primary red cell aplasia. The patient had been "spined" on her hand by a salt water catfish two days previously.

Conclusions

It is important to re-emphasize that the majority of cutaneous infections from coastal aquatic environs are due to organisms commonly seen in everyday practice. However, the coastal environment contains its own peculiar mix of uncommon flora, some of which can produce serious disease with potentially fatal consequences if unrecognized. It is likely that with improved microbial techniques of identification and isolation of microorganisms, many "new" aquatic infections will be described in future years. ■

References

1 Pein D, Ang KS, Nakashima NT, et al. Bacterial flora of marine penetrating injuries. Diag Microbiol Infect Dis 1983;1:229-32.

2 Barnett JH, Estes SA, Wirman JA, et al. Erysipeloid. J Am Acad Dermatol 1983;9:116-23.

3 Park CM, Poretz CM, Goldenberg R. *Erysipelothrix* endocarditis with cutaneous lesion. South Med J 1976;69:1101-3.

4 Raz I, Katz M, Aram H, Haas H. Sporotrichoid *Mycobacterium marinum* infection. Int J Dermatol 1984;23:554-5.

5 Wagner RF, Tawil A, Colletta A, et al. *Mycobacterium marinum* tenosynovitis in a Long Island fisherman. NY State J Med 1981;81:1091-4.

6 Cortez LM, Pankey GA. *Mycobacterium marinum* infections of the hand. J Bone and Joint Surg 1973;55-A:363-70.

7 Loria PR. Minocycline hydrochloride treatment for atypical acid-fast infection. Arch Dermatol 1976;112:517-9.

8 Donta ST, Smith PW, Levitz RE, et al. Therapy of *Mycobacterium marinum* infections: use of tetracyclines vs. rifampin. Arch Intern Med 1986;146:902-4.

9 Izumi AK, Hanke CW, Higaki M. *Mycobacterium marinum* infections treated with tetracycline. Arch Dermatol 1977;113:1067-8.

10 Heckerling PS, Stine TM, Pottage JC, et al. *Aeromonas hydrophila* myonecrosis and gas gangrene in a nonimmunocompromised host. Arch Intern Med 1983;143:2005-7.

11 Davis WA, Kane JG, Garagusi VF. Human *Aeromonas* infections: a review of the literature and a case report of endocarditis. Medicine 1978;57:267-7.

12 Francis YF, Richman S, Hussain S, et al. *Aeromonas hydrophila* infection. NY State J Med 1982;82:1461-4.

13 Shackelford PG, Ratzan SA, Shearer WT. Ecthyma gangrenosum produced by *Aeromonas hydrophila*. J Pediat 1973;83:100-1.

14 Fainstein V, Weaver S, Bodey GP. *In Vitro* susceptibilities of *Aeromonas hydrophila* against new antibiotics. Antimicrobial Agents and Chemotherapy 1982;22:513-4.

15 Fass RJ, Barnishan J. *In vitro* susceptibilities of *Aeromonas hydrophila* to 32 antimicrobial agents. Antimicrobial Agents and Chemotherapy 1981;19:357-8.

16 Morris JG, Black RE. Cholera and other vibrioses in the United States. NEJM 1985;312:343-50.

17 Bonner JR, Coker AS, Berryman CR, et al. Spectrum of Vibrio infections in a Gulf Coast community. Ann Intern Med 1983;99:464-9.

18 Farmer JJ. *Vibrio vulnificus,* the bacterium associated with sepsis, septicemia, and the sea. Lancet 1979;2:903.

19 Wickboldt LG, Sanders CV. *Vibrio vulnificus* infection. J Am Acad Dermatol 1983;9:243-51.

20 Johnston JM, Becker SF, McFarland LM. *Vibrio vulnificus:* Man and the sea. JAMA 1985;253:2850-3.

21 Tacket CO, Brenner F, Blake PA. Clinical features and an epidemiological study of *Vibrio vulnificus* infections. J Infect Dis 1984;149:558-61.

22 Bowdre JH, Hull JH, Cocchetto DM. Antibiotic efficacy against *Vibrio vulnificus* in the mouse: superiority of tetracycline. J Pharmcol Exp Ther 1983;225:595-8.

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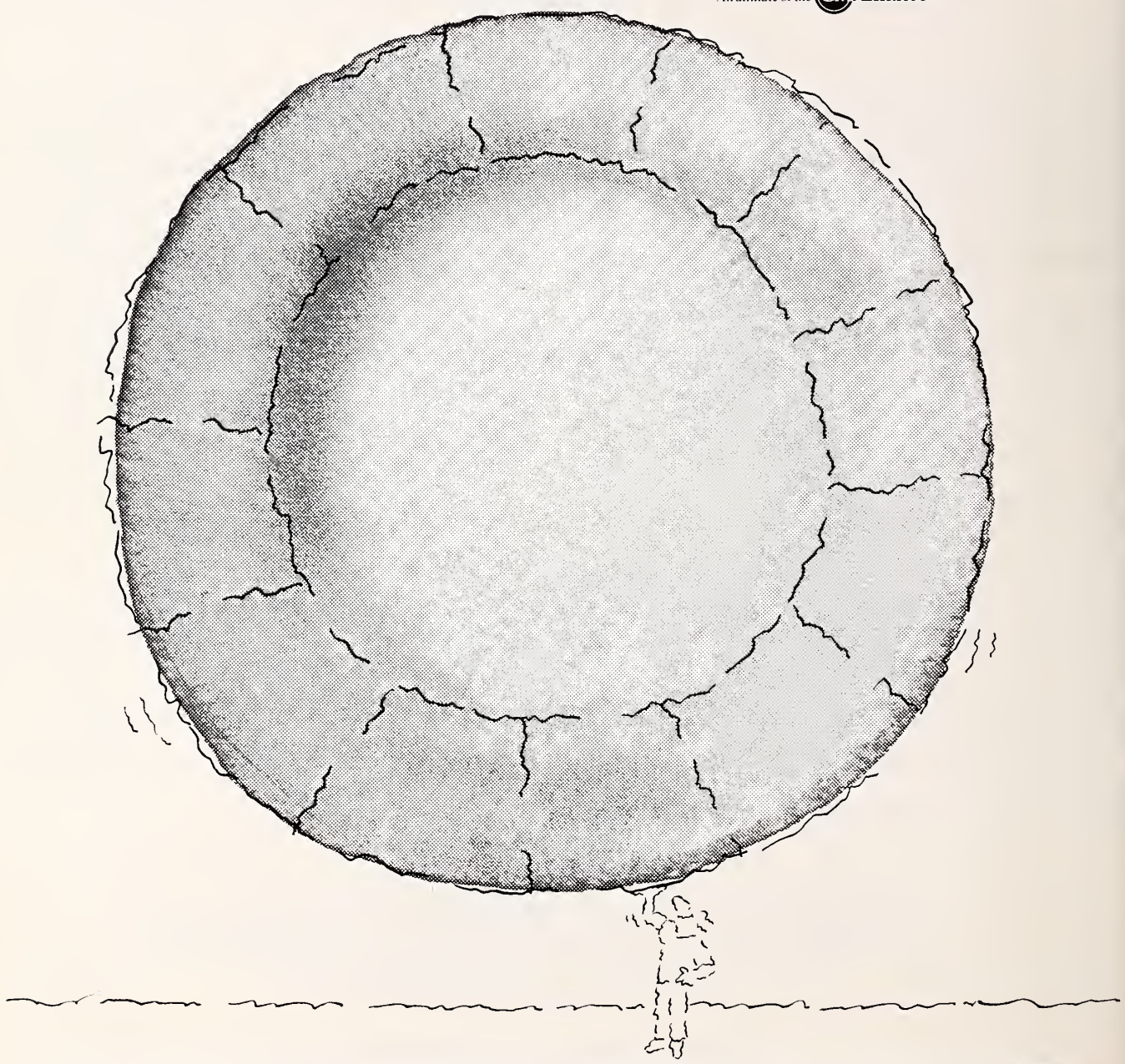
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PEDICULICIDAL/OVICIDAL ACTIVITIES: *In vitro* data indicate that permethrin has pediculicidal and ovicidal activity against *Pediculus humanus* var. *capitis*. The high cure rate (97-99%) of Nix in patients with head lice demonstrated at 14 days following a single application is attributable to a combination of its pediculicidal and ovicidal activities and its residual persistence on the hair which may also prevent reinfestation.

INDICATIONS AND USAGE: Nix is indicated for the single-application treatment of infestation with *Pediculus humanus* var. *capitis* (the head louse) and its nits (eggs). Retreatment for recurrences is required in less than 1% of patients since the ovicidal activity may be supplemented by residual persistence in the hair. If live lice are observed after at least seven days following the initial application, a second application can be given.

CONTRAINDICATIONS: Nix is contraindicated in patients with known hypersensitivity to any of its components, to any synthetic pyrethroid or pyrethrin, or to chrysanthemums.

WARNING: If hypersensitivity to Nix occurs, discontinue use.

PRECAUTIONS:

General: Head lice infestation is often accompanied by pruritus, erythema, and edema. Treatment with Nix may temporarily exacerbate these conditions.

Information for Patients: Patients with head lice should be advised that itching, redness, or swelling of the scalp may occur after application of Nix. If irritation persists, they should consult their physician. Nix is not irritating to the eyes; however, patients should be advised to avoid contact with eyes during application and to flush with water immediately if Nix gets in the eyes. In order to prevent accidental ingestion by children, the remaining contents of Nix should be discarded after use.

Combing of nits following treatment with Nix is not necessary for effective treatment. However, patients may do so for cosmetic or other reasons. The nits are easily combed from the hair treated with Nix after drying.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Six carcinogenicity bioassays were evaluated with permethrin, three each in rats and mice. No tumorigenicity was seen in the rat studies. However, species-specific increases in pulmonary adenomas, a common benign tumor of mice of high spontaneous background incidence, were seen in the three mouse studies. In one of these studies there was an increased incidence of pulmonary alveolar-cell carcinomas and benign liver adenomas only in female mice when permethrin was given in their food at a concentration of 5000 ppm. Mutagenicity assays, which give useful correlative data for interpreting results from carcinogenicity bioassays in rodents, were negative. Permethrin showed no evidence of mutagenic potential in a battery of *in vitro* and *in vivo* genetic toxicity studies.

Permethrin did not have any adverse effect on reproductive function at a dose of 180 mg/kg/day orally in a three-generation rat study.

Pregnancy: ***Teretogenic Effects***: Pregnancy Category B: Reproduction studies have been performed in mice, rats, and rabbits (200-400 mg/kg/day orally) and have revealed no evidence of impaired fertility or harm to the fetus due to permethrin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk and because of the evidence for tumorigenic potential of permethrin in animal studies, consideration should be given to discontinuing nursing temporarily or withholding the drug while the mother is nursing.

Pediatric Use: Nix is safe and effective in children two years of age and older. Safety and effectiveness in children less than two years of age have not been established.

ADVERSE REACTIONS: The most frequent adverse reaction to Nix is pruritus. This is usually a consequence of head lice infestation itself, but may be temporarily aggravated following treatment with Nix. 5.9% of patients in clinical studies experienced mild temporary itching; 3.4% experienced mild transient burning/stinging, tingling, numbness, or scalp discomfort; and 2.1% experienced mild transient erythema, edema, or rash of the scalp.

DOSAGE AND ADMINISTRATION:

Adults and Children: Nix is intended for use after the hair has been washed with shampoo, rinsed with water and towel dried. Apply a sufficient volume of Nix to saturate the hair and scalp. Nix should remain on the hair for 10 minutes before being rinsed off with water. A single treatment is sufficient to eliminate head lice infestation. Combing of nits is not required for therapeutic efficacy, but may be done for cosmetic or other reasons.

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HOW SUPPLIED: Nix (Permethrin) 1% (wt./wt.) Creme Rinse is supplied in plastic squeeze bottles that contain 2 fl. oz. weighing 56 g. (NDC-0081-0780-81)

Store at 15°-25°C (59°-77°F).

1 DiNapoli J, Austin R, Englender S, et al: Eradication of lice with a single treatment (unpublished data, 1987). 2 Taplin D, Meinking T, Castillero P, et al: Permethrin 1% creme rinse for the treatment of pediculus humanus var capitis infestation. *Pediatr Dermatol* 1986; 3,4:344-348. 3 Davies J, Dedhia H, Morgade C, et al: Lindane poisonings. *Arch Dermatol* 1983; 119:142-144.

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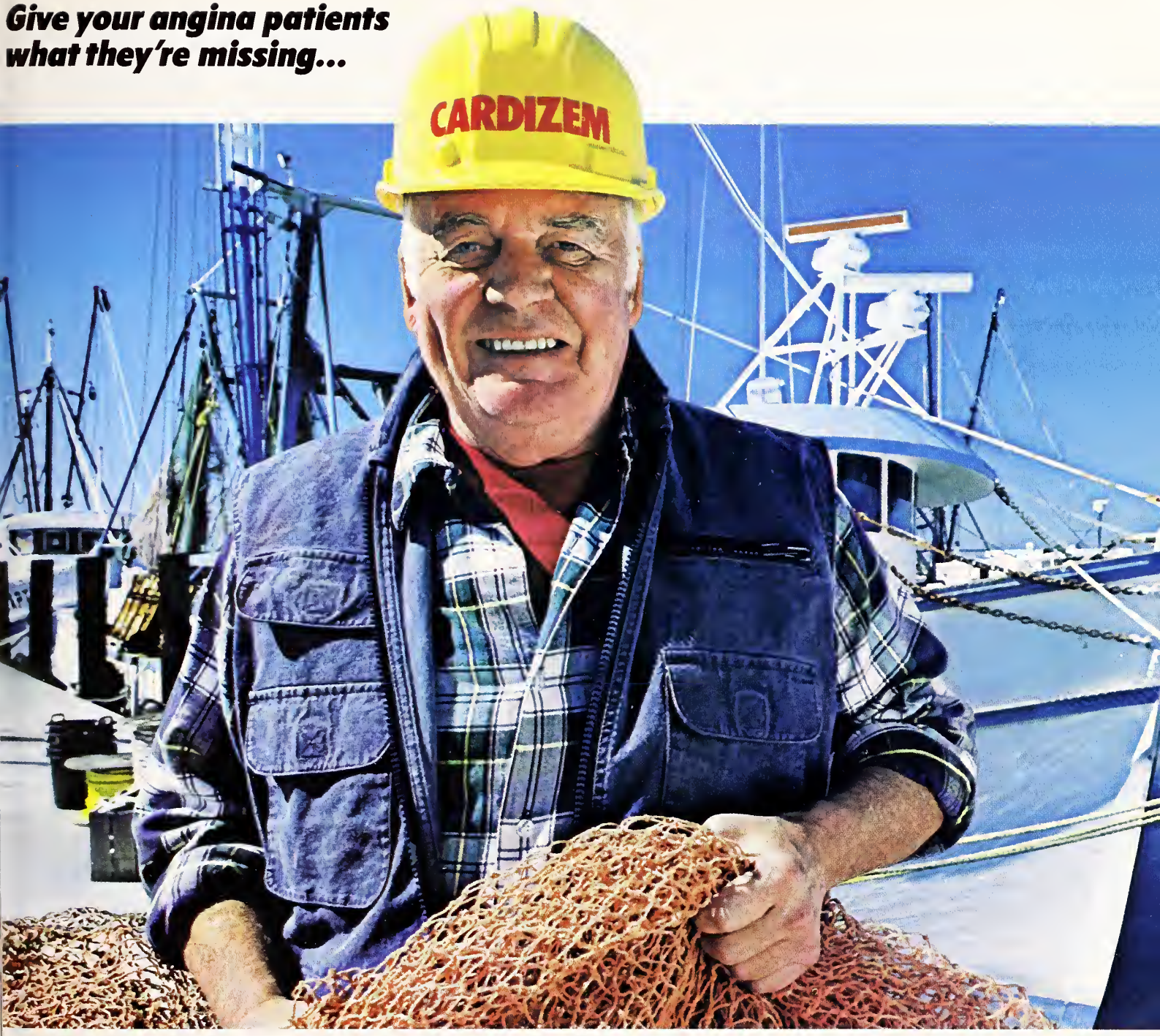
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WARNINGS

1. ***Cardiac Conduction.*** *CARDIZEM prolongs AV nodal refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1,243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.*
2. ***Congestive Heart Failure.*** *Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt).*
   Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. ***Hypotension.*** *Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.*
4. ***Acute Hepatic Injury.*** *In rare instances, significant elevations in enzymes such as alkaline phosphatase, CPK, LDH, SGOT, SGPT, and other symptoms consistent with acute hepatic injury have been noted. These reactions have been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertain in most cases, but probable in some. (See PRECAUTIONS.)*

PRECAUTIONS
General. *CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes, however, these changes were reversible with continued dosing.*

Drug Interaction. *Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)*

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. *A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.*

Pregnancy. *Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.*

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. *Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted.*

Pediatric Use. *Safety and effectiveness in children have not been established.*

ADVERSE REACTIONS
Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences as well as their frequency of presentation are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%). In addition, the following events were reported infrequently (less than 1%):

Cardiovascular:	*Angina, arrhythmia, AV block (first degree), AV block (second or third degree — see conduction warning), bradycardia, congestive heart failure, flushing, hypotension, palpitations, syncope.*
Nervous System:	*Amnesia, gait abnormality, hallucinations, insomnia, nervousness, paresthesia, personality change, somnolence, tinnitus, tremor.*
Gastrointestinal:	*Anorexia, constipation, diarrhea, dysgeusia, dyspepsia, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH (see hepatic warnings), vomiting, weight increase.*
Dermatologic:	*Petechiae, pruritus, photosensitivity, urticaria.*
Other:	*Amblyopia, dyspnea, epistaxis, eye irritation, hyperglycemia, nasal congestion, nocturia, osteoarticular pain, polyuria, sexual difficulties.*

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: alopecia, gingival hyperplasia, erythema multiforme, and leukopenia. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established. *Issued 9/86*

See complete Professional Use Information before prescribing.

References: ***1.*** *Pepine CJ, Feldman RL, Hill JA, et al: Clinical outcome after treatment of rest angina with calcium blockers: Comparative experience during the initial year of therapy with diltiazem, nitrendipine, and verapamil. Am Heart J 1983, 106(6):1341-1347.* ***2.*** *Shapiro W: Calcium channel blockers: Actions on the heart and uses in ischemic heart disease. Consultant 1984,24(Dec):150-159.* ***3.*** *Johnston DL, Lesowoy R, Human DP, et al: Clinical and hemodynamic evaluation of propranolol in combination with verapamil, nitrendipine and diltiazem in exertional angina pectoris: A placebo-controlled, double-blind, randomized, crossover study. Am J Cardiol 1985;55:680-687.* ***4.*** *Cohn PF, Braunwald E: Chronic ischemic heart disease, in Braunwald E (ed): Heart Disease: A Textbook of Cardiovascular Medicine, ed 2. Philadelphia, WB Saunders Co, 1984, chap 39.* ***5.*** *Schroeder JS: Calcium and beta blockers in ischemic heart disease: When to use which. Mod Med 1982,50(Sept):94-116.*

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Conjoint Report To the North Carolina Medical Society and the North Carolina Commission for Health Services

Ronald H. Levine, M.D., M.P.H., State Health Director

I am providing a brief review of selected accomplishments and concerns of your state's public health system, and I will then dwell at some length on a topic very near to our hearts, i.e., cholesterol (sorry for the pun).

AIDS

During the past year, a comprehensive AIDS control program has been established in North Carolina focusing, in the absence of a vaccine or effective mode of treatment, on passive and active surveillance, education, counseling in risk reduction, and antibody testing where appropriate.

Approximately 200 cases of AIDS have been diagnosed in North Carolina, and 70% of those patients have already died. A more extensive report on AIDS is part of the scientific program of this meeting.

Immunization

Also during 1986, the landmark Childhood Vaccine-Related Injury Compensation Law was enacted by the General Assembly, the only statute of its kind in the U.S., and the new college immunization law was implemented. Yet, new problems have surfaced as regards universal immunization among our children.

During 1986, eighty-eight cases of whooping cough were reported; another 49 were reported in just the first quarter of 1987, suggesting that pertussis vaccination levels may be slipping. The price of vaccines remains unconscionably high, though we are hopeful that our new no-fault law will result in substantial lowering of DPT prices.

From North Carolina Department of Human Resources, P.O. Box 2091, Raleigh 27602-2091. Dr. Levine presented this report to the North Carolina Medical Society at its 133rd Annual Meeting, and to the North Carolina Commission for Health Services, April 1987.

Cervical Cancer

Initiatives have been undertaken to target cervical cancer among black women, because they suffer significantly greater cervical cancer mortality than do white women.

Phase One involves exploring the problem through working with 23 local health departments. Phase Two, to begin next fiscal year, involves the development and testing of intervention models and programs.

Dental Health

In dental health, we continue to improve our fluoridation coverage throughout the state, with 204 communities now participating. An additional 26 towns have naturally fluoridated water so that, altogether, the total population receiving fluoridated water is now 88% of those served by municipal water systems.

Maternal and Child Health

Maternal and child health concerns remain a major responsibility of North Carolina's public health community. In addition to newborn screening for PKU and hypothyroidism, we are now in the process of adding neonatal sickle cell and galactosemia screening.

Consideration is also being given to neonatal screening for biotinidase deficiency and, with the continued cooperation of the obstetric community, we hope to achieve in the very near future statewide accessibility of maternal serum screening for alphafetoprotein, elevation of which might herald a fetus with a significant neural tube defect.

Children's Special Health Services

With the support of your Medical Advisory Committee, we

have changed the name of the 51-year-old Crippled Children's Program to "Children's Special Health Services." The new name reflects the evolution of the program from purely neuromusular-skeletal concerns to broad coverage of chronic pediatric disease.

Prenatal Care

You may be as shocked as we were to discover that, during 1985, more than 1,000 North Carolina births occurred to women who received no — I repeat, no — prenatal care. Compared to data from the previous year, this figure represents an alarming 21% increase. More regrettable yet, an additional increase is suggested by 1986 provisional data.

In an effort to gain more information about the crisis at hand, we have conducted patient and provider surveys to determine barriers to prenatal care in North Carolina. While data from the patient survey are still being analyzed, data from two provider surveys indicate that at least 49 obstetricians in 23 counties and 31 family physicians in 18 counties withdrew from prenatal care during the 12-month period prior to last March. Between March and November, an additional 36 physicians in 24 counties withdrew. These findings represent a serious threat to the health and well-being of our mothers and newborns, and are related in significant measure to the liability crisis.

Cancer Registry

During its 1986 session, the Legislature heeded Governor Martin's request, strongly supported by this Society, to fund a hospital-based statewide cancer registry. The Registry will be located in the State Center for Health Statistics. Several staff members are already on board, and the search for a registry director is under way.

The goal is for the Registry to become operational in January 1988 with gradual phasing in of North Carolina's hospitals. We will begin as an incidence registry with *passive* follow-up, whereby death certificates will be matched with Registry cases in order to determine survival rates. As the Registry continues to develop, we hope to conduct active follow-up whereby hospitals provide information on subsequent therapies, recurrences, last contact, and cause of death. This will make it possible to determine survival rates by site and stage of disease as well as treatment regimen. Finally, the Registry will ultimately give us invaluable information about possible environmental and occupational influences on cancer incidence.

Birth Defects Registry

A second initiative located in our State Center for Health Statistics is the North Carolina Birth Defects Registry. Initial development of this effort has been funded by the Kate B. Reynolds Foundation. Data will be derived from birth and death certificates, fetal death reports, hospital discharge abstracts and Medicaid claims, among other sources.

In addition to providing for the analysis of trends and patterns in incidence and survival, data from the Birth Defects Registry may be useful in assessing the impact of prevention programs and environmental exposures, in predicting future costs of treatment and care, and in providing information for more informed genetic counseling and preventive medicine efforts.

We hope, ultimately, to collect hospital discharge information on all infants under one year, not just those with birth defects. This would allow for a clearer understanding of infant mortality in relation to birthweight and neonatal morbidity.

Beginning January 1988, as occurs each decade in the U.S., new birth, death, and fetal death certificates will be in place in North Carolina. Changes to the death certificate are minimal, but changes in the birth and fetal death certificates are extensive, including checklist formats for medical risk factors, behavioral risk factors, obstetric procedures, complications, method of delivery, and abnormal conditions and malformations of the newborn. The quality of this data depends upon the care and good judgment of our physicians and hospital personnel. Over the next few months, our Vital Records Branch will be conducting a series of workshops for hospital personnel involved in the completion of these very vital reports.

Cholesterol

Now on to the special topic. The plethora of food products being advertised as "Low in Cholesterol" or as having "No Cholesterol," and the attention focused by the mass media, demonstrate that the public is taking note of the problem of cholesterol and its impact on health. This attention is indeed warranted.

Elevated blood cholesterol has been established as a key risk factor for stroke and heart disease. Lack of exercise, obesity, hypertension, smoking and diabetes also contribute, of course. The recent Lipid Research Clinics Trial clearly demonstrates that efforts to reduce "definitely elevated blood cholesterol levels will reduce the risk of heart attacks due to coronary heart disease."

As I stated in my Conjoint Report to you last year in discussing hypertension, North Carolina is a "hot spot" for heart disease and cardiovascular disease. Our death rates from heart disease and stroke are well above the national average.

Each day in North Carolina, 45 adults die prematurely. Fifteen of these deaths are attributable to cardiovascular disease. These deaths rob North Carolina of valuable human and financial resources. They occur during the most productive years of life and cause hardship on families, friends, and communities.

In December 1984, the National Institutes of Health convened a Consensus Development Conference on Lowering Blood Cholesterol to Prevent Heart Disease. The Conference examined the relationship between blood cholesterol and heart attacks and the steps that should be taken to diagnose and treat elevated blood cholesterol levels. The Conference concluded that "blood cholesterol levels above 200 mg/dl are associated with an increased risk of developing premature coronary heart disease." They put forth the goal of reducing blood cholesterol levels of the entire adult population of the United States. The Consensus Conference further concluded that each 1% reduction in blood cholesterol level yields approximately a 2% reduction in coronary heart disease rates. A very modest decrease in population blood cholesterol levels of less than 7% should reduce coronary heart disease by 13%. The result would be the prevention of two premature deaths each day in North Carolina.

Before significant progress can be made in saving lives and dollars by lowering the elevated blood cholesterol levels found among North Carolinians, the medical community and public health system need to work together to stimulate an awareness among health professionals and the public of the relationship between elevated blood cholesterol levels and cardiovascular disease.

The National Cholesterol Awareness Survey was conducted in the Spring of 1986. The results indicated that half of all physicians do not initiate diet therapy unless blood cholesterol values reach 240 mg/dl. One in four physicians reserves diet therapy for patients with levels above 260 mg/dl. Thus, many patients at moderate risk, those between 200 and 240 mg/dl, are not receiving dietary advice and counseling.

Awareness needs to increase among the public as well, although nearly three-quarters of the public now recognize the relation of elevated blood cholesterol to coronary heart disease, and almost half state that they have had their blood cholesterol measured.

It is clear that the NIH Consensus Conference recommendations need to be put fully into practice, especially the recommendation that blood cholesterol levels be reduced to less than 200 mg/dl. How?

The first step in the treatment of high-risk and moderate-risk blood cholesterol levels is diet therapy to reduce fat intake, and caloric restriction for the overweight. The use of diet as a primary mode of therapy requires a major effort on the part of physicians, nutritionists, dietitians, and other health professionals. Lifestyle changes are difficult without adequate instructions, motivation, and encouragement. Every opportunity to teach needs to be used to advantage.

Only after a careful trial of diet modification, using the most rigorous diet appropriate for the particular individual, should drug therapy be used. Even when drugs seem appropriate, it is important to stress that maximal diet therapy should be continued. We still do not have adequate evidence of the safety of any cholesterol-lowering drugs when given over decades; therefore, drug treatment should be undertaken cautiously, and its desirability should be periodically reevaluated, particularly in children.

Poor patient compliance is sometimes cited as a reason not to prescribe diet therapy and/or bile acid sequestrants at the blood cholesterol levels recommended by the Consensus Conference. Improving patient compliance requires thorough patient education and the provision of opportunities for patients to participate in tailoring the treatment plan to their own needs and abilities. This is an area in which the public health system and the physician community can cooperate to great advantage. Some health departments offer nutrition counseling to help patients achieve the treatment goals set by their physicians. Check with your local health department to find out if this service is available for your patients.

Given that the effects of dietary lipids and cholesterol on blood cholesterol and LDL levels are now sufficiently known, and that so many North Carolinians are at risk, population-wide strategies are both indicated and appropriate. In this regard, the National Heart, Lung and Blood Institute is mounting a major campaign, the National Cholesterol Education Program, to alert both the medical profession and the public to these issues.

Our agency is currently engaged in disseminating the Program's materials in North Carolina. One such project is a series of public service announcements which are presently being aired on television stations across the state encouraging viewers to "Know your number," i.e., their blood cholesterol values. The North Carolina Medical Society and local societies are cooperating by serving as a source to which the Department of Human Resources' toll-free Careline can refer persons who do not have a personal physician. On May 21, 1987, the Division of Health Services, the University of North Carolina - Chapel Hill School of Medicine and School of Public Health, and the North Carolina Heart Association . . . co-sponsored a training conference on Nutrition and Cardiovascular Health. The conference was for physicians, nutritionists, and other health professionals.

Local health departments are also confronting the cholesterol issue. Their screening activities will result in referrals to you for diagnosis and treatment. As mentioned earlier, you may wish to refer your patients to the health department for follow-up services such as nutrition counseling and education. One example of the services which may be available is the Craven County Health Department, where the nutritionists have adapted to North Carolina food practices the Culinary Hearts Kitchen Course developed by the New York Heart Association. They have taught this North Carolina version of the course which explains how to eat in a "heart healthy" way, North Carolina style, to many community groups in their county.

There are many other strategies for lowering blood cholesterol levels among groups of individuals at risk and the community as a whole. These include food labeling to convey more accurate information and the availability of "heart

healthy'' foods in worksite cafeterias, fast food restaurants, and vending machines.

I believe strongly that, just as with hypertension control, the medical community and the public health system can and must collaborate in order to decrease the prevailing blood cholesterol levels of North Carolinians, thereby improving the quality of life as well as its length.

Fifty years ago your President, Dr. Strosnider of Goldsboro, recognized his physician colleagues in the specialty of Public Health and Preventive Medicine thusly, and I quote: ''You contact the individual, you contact the remote communities, you many times bring the people to realize what scientific medicine has to offer. . . . You point out the rule and direct the individual's footsteps to those of our profession who are able to alleviate suffering, to care and to prolong life. You should feel very proud.''

I speak not only for myself and for Dr. Meredith and the entire Health Commission, but for the entire public health family in North Carolina in saying that we are most proud of the collaborative relationship that we enjoy with North Carolina's practicing physicians, a relationship that surely no other state can match. ■



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AIDS

Report of the Board of Trustees of the American Medical Association

Alan R. Nelson, M.D., Chairman

Excerpted from the AMA Interim Report (YY, A-87) on prevention and control of AIDS

Responding sensitively, intelligently, and effectively to the growing AIDS crisis is one of the crucial public health problems facing the nation. Prevention and control of the disease must be an essential part of that response because there is, at present, no known cure for AIDS patients.

Recommendations in this report have as their foundation an overriding concern for a judicious balance between the well-being of HIV positive patients and the protection of the public health.

Education continues to be the major weapon against spread of HIV infection. Physicians should assume the leadership role in educating themselves, their patients and the public. Individuals in society also must assume responsibility for being well-informed and for actions that affect their own health and the health of others.

Background

The Current Climate

It is estimated that five to ten million people are infected with HIV virus worldwide. AIDS has been reported in more than 100 countries. In the United States HIV-infected individuals may number 1.5 million, approximately 35,000 of whom have been reported to suffer from AIDS and more than 20,000 of whom are dead.

The U.S. Public Health Service has projected that by 1991 there may be 323,000 reported patients with AIDS and as many as 200,000 of them may be dead by that time. In addition, conversion rates of seropositive people to AIDS status now appear to be higher than early preliminary estimates. Originally under 20% were thought to convert. It now appears that, without treatment advances, a much higher percentage will develop the disease.

The Challenge of AIDS Control

Since there is no cure for AIDS and no protection beyond avoiding or making safer intimate contact with infected individuals, those infected with the virus must be sexually isolated from uninfected persons. A condom barrier offers some but not complete protection. Avoidance of sexual contact and of the use of shared needles are the only sure protections.

Further, the stigma that accompanies a diagnosis of AIDS, based on fear and society's attitude toward IV drug abusers and homosexuals, presents a factor beyond the control of the infected individual or medicine. An HIV-seropositive individual who might live five years or much longer with no overt health problems, once identified in a community, may be subject to many and varied discriminations — by family and loved ones, by neighbors and friends, by employers and fellow employees, and by other providers of services.

As with prevention and control of all contagious diseases, prevention and control of AIDS involves two, sometimes competing, concerns. First, the person who is afflicted with the disease needs compassionate treatment, and both those who have the disease and those who have been infected with the virus should not be subjected to irrational discrimination based on fear, prejudice or stereotype. Second, and of critical importance, the uninfected must be protected; those individuals who are not infected with the AIDS virus must have every opportunity to avoid transmission of the disease to them.

The Need for a National Policy on AIDS

Given the growing dimensions of the crisis and given limited national resources, it is imperative that a national policy be developed jointly by the public and private sectors. Such a policy must seek, in a cost-effective way, to achieve fundamental national goals: prevention, treatment, and cure —

and adequate research in all three areas. A coherent national approach to this modern killer is needed: a comprehensive blueprint for a national response, not piecemeal solutions. Knowledge of the disease is now more than six years old and the growing magnitude of the problem has been apparent for nearly that long.

Recommendation 1
A commission should be constituted with representatives from the Executive branch of the federal government, the Congress, state and local government, and the private sector and directed to develop a consensus position for consideration by the Congress, the Executive, state and local governments and private associations and institutions. The presidential commission announced . . . by the Administration could be broadened to implement this recommendation. A high-level body with representatives from the different branches and levels of government, but operating to the side of the more formal political processes, may have the best chance of forging the necessary national consensus which can then become the basis for concerted and coordinated action by both the public and private sectors.

The Special Role of Physicians and Other Health Care Counselors

Because there is no cure for AIDS, effective preventive techniques are vital. This involves both those who are infected and those who are not. Those who are infected must be identified so that they will not unknowingly transmit the disease to others. Many who are not infected will need to change their behavior substantially to minimize their risk of infection by the AIDS virus. The key to changed behavior is public education coupled with counseling which must be given by physicians and other health care counselors.

Public Awareness

The public is well aware of AIDS in a general sense. The attention of the media has been intensively focused on the disease. Translating general awareness into modifications of behavior is the challenge.

The groups that are most at risk for AIDS, e.g., IV drug abusers, homosexuals, bisexuals, and prostitutes, have reason to know they are at risk. Their contacts, however, may not know they are at risk and hence spouses, unborn babies, and premarital and extramarital sexual partners may become infected. Education and counseling aimed at the high-risk groups must be the first priority. The education should urge immediate counseling with a physician or other health care counselor about the risk of AIDS, the uses of antibody testing and preventive measures.

Also, it must be recognized that persons in these groups may not respond to education and counseling and, when they do not, more aggressive programs — such as expanded methadone maintenance programs or penalties for knowingly exposing others — must be considered.

Education aimed at the more general population is difficult for at least two reasons. First, reaching all Americans with an effective message can be expensive and not all people respond in the same way or to the same method of learning. Messages must therefore be tailored to the target audience in question. Second, preventive messages must necessarily deal with controversial subject matter. Widespread use of the electronic media — especially television — appears to be the most effective way to reach the general public. Accordingly, public service advertising on the electronic media must be greatly increased and these announcements must be shown at times and in places where they will be viewed by those who need the message most.

The AMA will continue its efforts to place its own public service ads on national television. AMA's Tony Danza public service advertisement (PSA) directed at teenagers about abstinence and condoms, and other PSAs which the networks have agreed to use, are significant first steps. But, more must be done and it must be nationally coordinated.

Recommendation 2
The communications industry must develop voluntary guidelines for public service advertising regarding AIDS in consultation with the health care community and government officials. The AMA intends to be a catalyst in this effort to immediately bring the communications and health care communities together.

Counseling — and Educating Counselors

Perhaps the greatest need at the present time is effective counseling of both low-risk and high-risk populations by physicians or other health care counselors. A massive education effort for physicians and other counselors is necessary as a first step. Complete and accurate information on the disease, the modes of transmission, the appropriate application of antibody testing, and effective ways to change behavior must be understood by counselors if it is to be properly communicated to patients. In conjunction with face-to-face counseling, printed materials — like the Surgeon General's recent 36-page report on AIDS — should be widely disseminated.

Even more challenging than preparing physicians and others for generic counseling on AIDS is preparing these counselors to assist those who test positive and are infected with the virus. It is at that time that a change of behavior on the part of the person infected is most critical, and it is then that the most sophisticated counseling is required due to the emotional impact of the test results. There is no higher prevention priority than ensuring that the community of individuals who provide health care counseling be given

adequate tools to be effective. And the AMA, as the largest organization of physicians in the world, must take a leading role in this undertaking.

Recommendation 3
A conference should be immediately held between the AMA, other physician organizations and public health officials at all levels of government to determine:

1 The types of education and training that are necessary for effective counseling.
2 The people in the health care community who should receive this education and training.
3 The current resources available for such education and training.
4 Recommendations for providing additional resources, including consideration of the respective roles of medical associations and government at all levels.
5 Recommendations on how to update information continually as new scientific data are developed.
6 Recommendations as to alternative measures to prevent the spread of AIDS where education and counseling are not likely to be effective, particularly among IV drug users, through such programs as expanded methadone maintenance.

The AMA will promptly and widely report on the conference findings and assist in the implementation of the conference recommendations.

Voluntary and Mandatory Testing

Knowledge that a person is infected with the AIDS virus can be the crucial predicate to changing behavior. Thus, testing for an antibody to the AIDS virus, when used in conjunction with appropriate counseling (and when offered in the context of appropriate anti-discrimination and confidentiality protections discussed below), serves the important public health purpose of providing impetus for behavior changes that minimize the risk of transmitting the AIDS virus.

Clearly, the need for HIV-antibody testing has expanded beyond the original purpose, the screening of blood donors. Guidelines for the appropriate use of HIV-antibody testing must center on the following justifications:

1 To identify infected persons and to offer treatment where possible and to protect uninfected third parties.
2 To offer education and counseling that would modify high-risk behavior.
3 To solicit patient cooperation for locating and referring sex partners.
4 To obtain broadened epidemiological statistics on the prevalence of HIV infection in the population.

Except for individuals in the limited categories listed in Recommendation 5 below (blood, organ and semen donors, immigrants, military personnel, prison inmates), with regard to whom testing serves well-established and well-accepted protection goals, mandatory national testing should not, at present, be broadly extended.

Military personnel have traditionally been subject to mandatory immunizations and our defense forces, of course, must be as strong as possible. Prison inmates, because they are confined and have a higher incidence of high-risk individuals than the general population, require special protection. Immigrants should be tested so that we can focus on the AIDS problem already here, and the nation certainly has the right to bar entrants with communicable diseases. The need to test donors of blood, organs and semen has never been questioned.

Public health authorities have advanced a plausible premise for their opposition to mandatory testing of homosexuals and drug abusers: such testing will only drive people underground and away from the health care system. Public health authorities also have advanced a premise for not requiring mandatory testing of large segments of the general population, such as all those seeking marriage licenses or all those admitted to hospitals: such testing in low prevalence populations would result in a high proportion of false positives, and would not be cost-effective, given the demand for voluntary testing and the shortage of testing and counseling resources for those who want them voluntarily or who will want them following effective public awareness campaigns.

Until those premises are shown by superior studies to be incorrect, a policy regarding mandatory testing which has been rejected by the vast majority of public health officials, including the Centers of Disease Control and the Surgeon General, cannot be recommended.

But certain high-risk groups should be regularly tested, with a right to informed consent and to refuse the test. Those groups are defined in Recommendation 6.

In addition, physicians and other hospital personnel involved in invasive surgical procedures who necessarily and unavoidably come in contact with the blood of patients, need to be aware of their risks. Limited regular testing of patients will assure that the CDC guidelines for the protection of hospital personnel are followed rigorously and will further assure that all patients receive prompt and full treatment. The Board emphasizes here that physicians have a long and honored tradition of tending to patients afflicted with infectious diseases with compassion and courage. That tradition must and will be continued throughout the AIDS epidemic.

Because the risk to health care personnel will be slight in most areas, any effort at mandatory testing of certain kinds of patients should be instituted after voluntary testing has failed and where a variety of factors, e.g., the costs and availability of proper testing and counseling as measured against the risk presented by the relative presence of a high-risk patient population, weigh in favor of mandatory testing.

The AMA does not believe it appropriate at this time to

extend regularly offered testing to persons other than those listed, e.g., recommended testing should not be extended to all individuals anywhere who are considering marriage or to all persons in hospitals. Decisions about whether there should be generally recommended testing to other types of individuals should, at this time, be left to the decision of the local community depending on its own circumstances and the judgments of its own public health officials.

At present, each case of AIDS must be reported by the individual physician to state public health authorities either by name or identifier. Anonymous, or if carefully implemented, confidential reporting should also be extended to all confirmed instances of persons infected with AIDS virus but not afflicted with ARC or AIDS. Individuals who are seropositive for the HIV antibody are infected with the virus and can spread the disease as certainly as those with symptoms of AIDS. A sound epidemiologic understanding of the potential impact of AIDS on society requires the reporting of those who are confirmed as testing positive for the antibody to the AIDS virus.

Recommendation 4
Tests for the AIDS virus should be readily available to all who wish to be tested. The tests should be routinely subsidized for individuals who cannot afford to pay the cost of their test.

Recommendation 5
Testing for the AIDS virus should be mandatory for donors of blood and blood fractions, organs and other tissues intended for transplantation in the United States or abroad, for donors of semen or ova collected for artificial insemination or invitro fertilization, for immigrants to the United States, for inmates in federal and state prisons and for military personnel.

Recommendation 6
Voluntary testing should be regularly provided for the following types of individuals who give an informed consent:

1 Patients at sexually transmitted disease clinics.
2 Patients at drug abuse clinics.
3 Pregnant women in high-risk areas in the first trimester of pregnancy.
4 Individuals who are from areas with a high incidence of AIDS or who engage in high-risk behavior and who are seeking family planning services.
5 Patients who are from areas with a high incidence of AIDS or who engage in high-risk behavior and who require surgical or other invasive procedures. If the voluntary policy is not sufficiently accepted, the hospital and medical staff should consider a mandatory program for the institution.

Recommendation 7
As a matter of medical judgment, physicians should encourage voluntary HIV testing for individuals whose history or clinical status warrant this measure.

Recommendation 8
Individuals who are found to be seropositive for the AIDS virus should be reported to appropriate public health officials on an anonymous or confidential basis with enough information to be epidemiologically significant.

Recommendation 9
Physicians should counsel patients before tests for AIDS to educate them about effective behaviors to avoid the risk of AIDS for themselves and others. In public screening programs, counseling may be done in whatever form is appropriate given the resources and personnel available as long as effective counseling is provided.

Recommendation 10
Physicians should counsel their patients who are found to be seropositive regarding (a) responsible behavior to prevent the spread of the disease, (b) strategies for health protection with a compromised immune system, and (c) the necessity of alerting sexual contacts, past (5-10 years) and present, regarding their possible infection by the AIDS virus. Long-term emotional support should be provided or arranged for seropositive individuals.

Recommendation 11
Patients should knowingly and willingly give consent before a voluntary test is conducted.

Resources

Only recently have Congress and the Administration begun to seriously consider the vast resources needed to deal effectively with AIDS. Federal funding for 1988 is expected to reach $1 billion. But that amount will not be enough. The AMA endorses the bill introduced by Congressman Waxman to increase resources for testing and counseling.

Testing for the HIV virus in America will require substantially more resources than are currently being made available. Trained counselors, materials for counseling, and research on effective counseling approaches, for the variety of population groups that need these services, are urgently required. Also, dependable testing facilities with sufficient capacity to respond to the epidemic are needed now. In addition, funds for research and care must be increased to fully exploit the nation's capacity to respond effectively to this crisis.

The key premise of a prevention strategy, when there is no vaccine, is behavioral change on the part of those infected and those at risk of infection by AIDS virus. It is therefore crucial that there be immediate and systematic studies conducted of how behavior of affected groups may have changed in recent years, and if possible, what factors caused the

changes. Most particularly, it is necessary to study and evaluate the types of counseling that have been effective so that the techniques may be replicated widely. There can be little question that in a free society suasion and voluntary change, if effective, are far preferable to compulsion.

Recommendation 12
Public funding must be provided in an amount sufficient (1) to promptly and efficiently counsel and test for AIDS, (2) to conduct the research necessary to find a cure and develop an effective vaccine, (3) to perform studies to evaluate the efficiency of counseling and education programs on changing behavior and (4) to assist in the care of AIDS patients who cannot afford proper care or who cannot find appropriate facilities for treatment and care.

Protection Against Discrimination

The AMA believes strongly that AIDS victims and those who test positively for the antibody to the AIDS virus should not be treated unfairly or suffer from arbitrary or irrational discrimination in their daily lives. Last year, the AMA filed a friend of the court brief in *School Board of Nassau County v. Arline*, a case before the Supreme Court which addressed the question of how the federal handicapped anti-discrimination laws should apply to persons afflicted with contagious diseases. The AMA set forth a framework for the application of the law which the Supreme Court adopted, quoting verbatim from the AMA brief in its key holding.

A sound anti-discrimination approach does not allow reflexive discrimination against AIDS victims based on fear or stereotype or prejudice. Nor does it require that all employers or other federal fund recipients automatically accommodate a person afflicted with a communicable disease. Instead, based on an individualized analysis of the nature and duration of the handicap and the nature and duration of the communicability, a federal fund recipient must make a reasonable accommodation based on reasonable medical judgments, given the state of medical knowledge at the time. This sound framework for carefully balancing the two competing concerns — the right of the victim to be free from irrational acts of prejudice and the right of others to be protected against an unreasonable risk from disease — should also guide state anti-discrimination efforts.

A key question left open by the Supreme Court is whether a person who is not afflicted with AIDS or AIDS Related Complex, but who nonetheless tests positive for the antibody, is protected by the federal anti-discrimination law.

In order to encourage people to seek counseling, and testing if necessary, the AMA strongly urges that anti-discrimination laws at both the federal and state levels be clarified either by regulatory interpretation or statutory amendment to cover those who test HIV antibody positive. Allowing irrational discrimination against those who test positive serves no useful purpose: it only has the destructive effect of removing those who are otherwise productive members of society from the work force or otherwise denying them access to an important aspect of normal life. While the federal law should continue to apply only to federal fund recipients, state laws should be sought to prevent irrational discrimination by entities or individuals within those jurisdictions.

Recommendation 13
Anti-discrimination laws must be clarified or amended to cover those who test positive for antibodies to the AIDS virus.

Confidentiality

The ability of the health care community to maintain the confidentiality of patient information and restrict its use to only those purposes essential for maintenance of health is, like clarification of anti-discrimination laws, vital to an effective program of preventing and controlling AIDS. The basic principle should be that access to patient information should be limited only to health care personnel who have a legitimate need to have access to the information in order to assist the patient or to protect the health of others closely associated with the patient.

As with anti-discrimination laws, laws protecting the confidentiality of patient information should be on both federal and state agendas.

Recommendation 14
Model confidentiality laws must be drafted which can be adopted at all levels of government to encourage as much uniformity as possible in protecting the identity of AIDS patients and carriers, except where the public health requires otherwise.

Questions for the Future

As the national debate on prevention and control of AIDS continues, other important issues will need to be addressed.

Research and Data

There is an urgent and critical need for more scientifically sound data on the prevalence and spread of virus in the general population. At the present time only those cases that meet the current CDC surveillance definition of AIDS are reported to that institution. Since AIDS is the terminal and fatal stage of HIV-infection, it represents only the tip of the huge HIV-infection iceberg. How large the base of the iceberg really is — that is, how many people are actually infected — can only be estimated from the number of reported AIDS cases. That has been done by using a multiple

(50 to 100 times the number of AIDS cases) that has been extracted largely from surveys done in high-prevalence areas. Yet this same multiple has been used to estimate the number of current and potential HIV-infected persons in low-prevalence areas and for that matter the entire country and even the world. The CDC itself is unsure about the accuracy of its estimates. Yet if economic and medical plans are to be made for the future, reliable projections must be available. How sufficient or exaggerated these plans may be depends upon the accuracy of current and future estimates of HIV-infected persons, particularly as to the extent of its spread into the low-risk heterosexual population.

Not only are accurate estimates of HIV-infected persons needed, but so too are reliable data on the rate of conversion of asymptomatic seropositive persons to clinical illness, including AIDS, that requires increased medical care. This information is important for the formulation of plans for the future cases of potentially hospitalizable patients and the economic consideration thereof. HIV-infection has protean manifestations and death can result not only from AIDS itself, but from severe ARC or progressive CNS disease as well. In order to obtain accurate information in HIV infected persons on the rate of conversion from asymptomatic to clinically severe illness, baseline data on their serologic status must be obtained as early as possible — not after clinically manifest disease is present. The presence of HIV antibodies indicates not only current infection with the virus, but also that the patient is potentially capable of transmitting the disease. This follows from the fact that HIV integrates its genome into the host cell genome with the result that once infected, the patient remains infected for life and is, therefore, capable of life-long transmission of the agent. The earlier the infected person is detected, the earlier he or she may be advised of this contagious state and counseled on how to avoid further transmission of this lethal virus.

Recommendation 15
Consistent with the proposal by the Secretary of Health and Human Services, a national study in various areas of the country must be immediately undertaken to determine the prevalence and conversion rate of the virus in the United States population, and the study must be repeated at appropriate intervals to gauge the spread of the disease.

Warning to Third Parties

One of the more difficult issues for society is how to warn unsuspecting spouses or sexual partners of persons who test HIV positive. Such a warning would allow the third party to practice "safer" sex or to abstain from sexual relations with the infected person altogether. Given the life-or-death consequences, the unsuspecting third party should, as a general matter, be warned because there is no cure and because it may not be responsible to rely solely on the infected person to provide a suitable warning.

Physicians who have reason to believe that there is an unsuspecting sexual partner of an infected individual should be encouraged to inform public health authorities. The duty to warn the unsuspecting sexual partner should then reside in the public health authorities as well as the infected person and not in the physician to the infected person.

The AMA believes that mechanisms, analogous to those used by public health authorities to warn sexual partners about other sexually transmitted diseases, should be put in place to warn unsuspecting third parties about an infected sexual partner. Such warning may be appropriate whether the infected person is bisexual, heterosexual or homosexual.

This problem raises the general question of whether anonymous reporting should continue to be the standard for persons who test seropositive. Our recommendation at this time is limited to situations where physicians or health officials already know the identity of the AIDS carrier and have reason to believe a risk to third parties exists.

Recommendation 16
Specific statutes must be drafted which, while protecting to the greatest extent possible the confidentiality of patient information, (a) provide a method for warning unsuspecting sexual partners, (b) protect physicians from liability for failure to warn the unsuspecting third party but (c) establish clear standards for when a physician should inform the public health authorities, and (d) provide clear guidelines for public health authorities who need to trace the unsuspecting sexual partners of the infected person.

Sanctions for Reckless Disregard for the Safety of Others

A related question which must be explored is whether an infected person, who knows he or she is infected and who knowingly fails to warn a sexual partner of the infection, should be subject not just to tort suits, but to a proceeding brought by state authorities to sanction the individual.

Recommendation 17
Given the risk of infection being transmitted sexually, and given the dire potential consequences of transmission, serious consideration should be given to sanctions, at least in circumstances where an unsuspecting sexual partner subsequently finds out about a partner's infection and brings a complaint to the attention of authorities. Pre-emptive sanctions are not being endorsed by this recommendation. ■

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MICROBIOLOGY: The bactericidal activity of ceftriaxone results from inhibition of cell wall synthesis. Ceftriaxone has a high degree of stability in the presence of beta-lactamases, both penicillinases and cephalosporinases, of gram-negative and gram-positive bacteria. Ceftriaxone is usually active against the following microorganisms *in vitro* and in clinical infections (see Indications and Usage):

GRAM-NEGATIVE AEROBES: *Enterobacter aerogenes, Enterobacter cloacae, Escherichia coli, Haemophilus influenzae* (including ampicillin-resistant strains), *H. parainfluenzae, Klebsiella* species (including *K. pneumoniae*), *Neisseria gonorrhoeae* (including penicillinase and nonpenicillinase producing strains), *Neisseria meningitidis, Proteus mirabilis, Proteus vulgaris, Morganella morganii* and *Serratia marcescens*.

Note: Many strains of the above organisms that are multiply resistant to other antibiotics, e.g., penicillins, cephalosporins and aminoglycosides, are susceptible to ceftriaxone sodium.

Ceftriaxone is also active against many strains of *Pseudomonas aeruginosa*.

GRAM-POSITIVE AEROBES: *Staphylococcus aureus* (including penicillinase-producing strains) and *Staphylococcus epidermidis* (Note: methicillin-resistant staphylococci are resistant to cephalosporins, including ceftriaxone), *Streptococcus pyogenes* (Group A beta-hemolytic streptococci), *Streptococcus agalactiae* (Group B streptococci) and *Streptococcus pneumoniae*. (Note: Most strains of enterococci, *Streptococcus faecalis* and Group D streptococci are resistant.)

Ceftriaxone also demonstrates *in vitro* activity against the following microorganisms, although the clinical significance is unknown:

GRAM-NEGATIVE AEROBES: *Citrobacter freundii, Citrobacter diversus, Providencia* species (including *Providencia rettgeri*), *Salmonella* species (including *S. typhi*), *Shigella* species and *Acinetobacter calcoaceticus*.

ANAEROBES: *Bacteroides* species, *Clostridium* species (Note: most strains of *C. difficile* are resistant).

SUSCEPTIBILITY TESTING: Standard susceptibility disk method. Quantitative methods that require measurement of zone diameters give the most precise estimate of antibiotic susceptibility. One such procedure (Bauer AW, Kirby WMM, Sherris JC, Turck M: Antibiotic Susceptibility Testing by a Standardized Single Disk Method, *Am J Clin Pathol* 45:493-496, 1966, Standardized Disk Susceptibility Test, *Federal Register* 39:19182-19184, 1974; National Committee for Clinical Laboratory Standards, Approved Standard ASM 2, Performance Standards for Antimicrobial Disk Susceptibility Tests, July 1975.) has been recommended for use with disks to test susceptibility to ceftriaxone.

Laboratory results of the standardized single-disk susceptibility test using a 30-mcg ceftriaxone disk should be interpreted according to the following three criteria:

1. Susceptible organisms produce zones of 18 mm or greater, indicating that the tested organism is likely to respond to therapy.
2. Organisms that produce zones of 14 to 17 mm are expected to be susceptible if a high dosage (not to exceed 4 gm per day) is used or if the infection is confined to tissues and fluids (e.g., urine), in which high antibiotic levels are attained.
3. Resistant organisms produce zones of 13 mm or less, indicating that other therapy should be selected.

Organisms should be tested with the ceftriaxone disk, since ceftriaxone has been shown by *in vitro* tests to be active against certain strains found resistant to cephalosporin class disks.

Organisms having zones of less than 18 mm around the cephalothin disk are not necessarily of intermediate susceptibility or resistant to ceftriaxone.

Standardized procedures require use of control organisms. The 30-mcg ceftriaxone disk should give zone diameters between 29 and 35 mm, 22 and 28 mm and 17 and 23 mm for the reference strains *E. coli* ATCC 25922, *S. aureus* ATCC 25923 and *P. aeruginosa* ATCC 27853, respectively.

DILUTION TECHNIQUES: Based on the pharmacokinetic profile of ceftriaxone, a bacterial isolate may be considered susceptible if the MIC value for ceftriaxone is not more than 16 mcg/ml. Organisms are considered resistant to ceftriaxone if the MIC is equal to or greater than 64 mcg/ml. Organisms having an MIC value of less than 64 mcg/ml, but greater than 16 mcg/ml, are expected to be susceptible if a high dosage (not to exceed 4 gm per day) is used or if the infection is confined to tissues and fluids (e.g., urine), in which high antibiotic levels are attained.

E. coli ATCC 25922, *S. aureus* ATCC 25923 and *P. aeruginosa* ATCC 27853 are also the recommended reference strains for controlling ceftriaxone dilution tests. Greater than 95% of MICs for the *E. coli* strain should fall within the range of 0.016 to 0.5 mcg/ml. The range for the *S. aureus* strain should be 1 to 2 mcg/ml, while for the *P. aeruginosa* strain the range should be 8 to 64 mcg/ml.

INDICATIONS AND USAGE: Rocephin is indicated for the treatment of the following infections when caused by susceptible organisms.

LOWER RESPIRATORY TRACT INFECTIONS caused by *Strep. pneumoniae, Streptococcus* species (excluding enterococci), *Staph. aureus, H. influenzae, H. parainfluenzae, Klebsiella* species (including *K. pneumoniae*), *E. coli, E. aerogenes, Proteus mirabilis* and *Serratia marcescens*.

SKIN AND SKIN STRUCTURE INFECTIONS caused by *Staph. aureus, Staph. epidermidis, Streptococcus* species (excluding enterococci), *E. cloacae, Klebsiella* species (including *K. pneumoniae*), *Proteus mirabilis* and *Pseudomonas aeruginosa*.

URINARY TRACT INFECTIONS (complicated and uncomplicated) caused by *E. coli, Proteus mirabilis, Proteus vulgaris, M. morganii* and *Klebsiella* species (including *K. pneumoniae*).

UNCOMPLICATED GONORRHEA (cervical/urethral and rectal) caused by *Neisseria gonorrhoeae*, including both penicillinase and nonpenicillinase producing strains.

PELVIC INFLAMMATORY DISEASE caused by *N. gonorrhoeae*.

BACTERIAL SEPTICEMIA caused by *Staph. aureus, Strep. pneumoniae, E. coli, H. influenzae* and *K. pneumoniae*.

BONE AND JOINT INFECTIONS caused by *Staph. aureus, Strep. pneumoniae, Streptococcus* species (excluding enterococci), *E. coli, P. mirabilis, K. pneumoniae* and *Enterobacter* species.

INTRA-ABDOMINAL INFECTIONS caused by *E. coli* and *K. pneumoniae*.

MENINGITIS caused by *H. influenzae, N. meningitidis* and *Strep. pneumoniae*. Ceftriaxone has also been used successfully in a limited number of cases of meningitis and shunt infections caused by *Staph. epidermidis* and *E. coli*.

PROPHYLAXIS: The administration of a single dose of ceftriaxone preoperatively may reduce the incidence of postoperative infections in patients undergoing coronary artery bypass surgery.

Although ceftriaxone has been shown to have been as effective as cefazolin in the prevention of infection following coronary artery bypass surgery, no placebo-controlled trials have been conducted to evaluate any cephalosporin antibiotic in the prevention of infection following coronary artery bypass surgery.

SUSCEPTIBILITY TESTING: Before instituting treatment with Rocephin, appropriate specimens should be obtained for isolation of the causative organism and for determination of its susceptibility to the drug. Therapy may be instituted prior to obtaining results of susceptibility testing.

CONTRAINDICATIONS: Rocephin is contraindicated in patients with known allergy to the cephalosporin class of antibiotics.

WARNINGS: BEFORE THERAPY WITH ROCEPHIN IS INSTITUTED, CAREFUL INQUIRY SHOULD BE MADE TO DETERMINE WHETHER THE PATIENT HAS HAD PREVIOUS HYPERSENSITIVITY REACTIONS TO CEPHALOSPORINS, PENICILLINS OR OTHER DRUGS. THIS PRODUCT SHOULD BE GIVEN CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. ANTIBIOTICS SHOULD BE ADMINISTERED WITH CAUTION TO ANY PATIENT WHO HAS DEMONSTRATED SOME FORM OF ALLERGY, PARTICULARLY TO DRUGS. SERIOUS ACUTE HYPERSENSITIVITY REACTIONS MAY REQUIRE THE USE OF SUBCUTANEOUS EPINEPHRINE AND OTHER EMERGENCY MEASURES.

Pseudomembranous colitis has been reported with the use of cephalosporins (and other broad-spectrum antibiotics); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with antibiotic use.

ROCEPHIN® (ceftriaxone sodium/Roche)

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis. Cholestyramine and colestipol resins have been shown to bind to the toxin *in vitro*.

Mild cases of colitis respond to drug discontinuance alone. Moderate to severe cases should be managed with fluid, electrolyte and protein supplementation as indicated.

When the colitis is not relieved by drug discontinuance or when it is severe, oral vancomycin is the treatment of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should also be considered.

PRECAUTIONS: *GENERAL*: Although transient elevations of BUN and serum creatinine have been observed, at the recommended dosages, the nephrotoxic potential of Rocephin is similar to that of other cephalosporins.

Ceftriaxone is excreted via both biliary and renal excretion (see Clinical Pharmacology). Therefore, patients with renal failure normally require no adjustment in dosage when usual doses of Rocephin are administered, but concentrations of drug in the serum should be monitored periodically. If evidence of accumulation exists, dosage should be decreased accordingly.

Dosage adjustments should not be necessary in patients with hepatic dysfunction, however, in patients with both hepatic dysfunction and significant renal disease, Rocephin dosage should not exceed 2 gm daily without close monitoring of serum concentrations.

Alterations in prothrombin times have occurred rarely in patients treated with Rocephin. Patients with impaired vitamin K synthesis or low vitamin K stores (e.g., chronic hepatic disease and malnutrition) may require monitoring of prothrombin time during Rocephin treatment. Vitamin K administration (10 mg weekly) may be necessary if the prothrombin time is prolonged before or during therapy.

Prolonged use of Rocephin may result in overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Rocephin should be prescribed with caution in individuals with a history of gastrointestinal disease, especially colitis.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY: Carcinogenesis: Considering the maximum duration of treatment and the class of the compound, carcinogenicity studies with ceftriaxone in animals have not been performed. The maximum duration of animal toxicity studies was six months.

Mutagenesis: Genetic toxicology tests included the Ames test, a micronucleus test and a test for chromosomal aberrations in human lymphocytes cultured *in vitro* with ceftriaxone. Ceftriaxone showed no potential for mutagenic activity in these studies.

Impairment of Fertility: Ceftriaxone produced no impairment of fertility when given intravenously to rats at daily doses up to 586 mg/kg/day, approximately 20 times the recommended clinical dose of 2 gm/day.

PREGNANCY: Teratogenic Effects: Pregnancy Category B. Reproductive studies have been performed in mice and rats at doses up to 20 times the usual human dose and have no evidence of embryotoxicity, fetotoxicity or teratogenicity. In primates, no embryotoxicity or teratogenicity was demonstrated at a dose approximately three times the human dose.

There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproductive studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nonteratogenic Effects: In rats, in the Segment I (fertility and general reproduction) and Segment III (perinatal and postnatal) studies with intravenously administered ceftriaxone, no adverse effects were noted on various reproductive parameters during gestation and lactation, including postnatal growth, functional behavior and reproductive ability of the offspring, at doses of 586 mg/kg/day or less.

NURSING MOTHERS: Low concentrations of ceftriaxone are excreted in human milk. Caution should be exercised when Rocephin is administered to a nursing woman.

PEDIATRIC USE: Safety and effectiveness of Rocephin in neonates, infants and children have been established for the dosages described in the Dosage and Administration section.

ADVERSE REACTIONS: Rocephin is generally well tolerated. In clinical trials, the following adverse reactions, which were considered to be related to Rocephin therapy or of uncertain etiology, were observed:

LOCAL REACTIONS—pain, induration or tenderness at the site of injection (1%). Less frequently reported (less than 1%) was phlebitis after I.V. administration.

HYPERSENSITIVITY—rash (1.7%). Less frequently reported (less than 1%) were pruritus, fever or chills.

HEMATOLOGIC—eosinophilia (6%), thrombocytosis (5.1%) and leukopenia (2.1%). Less frequently reported (less than 1%) were anemia, neutropenia, lymphopenia, thrombocytopenia and prolongation of the prothrombin time.

GASTROINTESTINAL—diarrhea (2.7%). Less frequently reported (less than 1%) were nausea or vomiting, and dysgeusia.

HEPATIC—elevations of SGOT (3.1%) or SGPT (3.3%). Less frequently reported (less than 1%) were elevations of alkaline phosphatase and bilirubin.

RENAL—elevations of the BUN (1.2%). Less frequently reported (less than 1%) were elevations of creatinine and the presence of casts in the urine.

CENTRAL NERVOUS SYSTEM—headache or dizziness were reported occasionally (less than 1%).

GENITOURINARY—moniliasis or vaginitis were reported occasionally (less than 1%).

MISCELLANEOUS—diaphoresis and flushing were reported occasionally (less than 1%).

Other rarely observed adverse reactions (less than 0.1%) include leukocytosis, lymphocytosis, monocytosis, basophilia, a decrease in the prothrombin time, jaundice, glycosuria, hematuria, bronchospasm, serum sickness, abdominal pain, colitis, flatulence, dyspepsia, palpitations and epistaxis.

DOSAGE AND ADMINISTRATION: Rocephin may be administered intravenously or intramuscularly. The usual adult daily dose is 1 to 2 gm given once a day (or in equally divided doses twice a day) depending on the type and severity of the infection. The total daily dose should not exceed 4 grams.

For the treatment of serious miscellaneous infections in children, other than meningitis, the recommended total daily dose is 50 to 75 mg/kg (not to exceed 2 grams), given in divided doses every 12 hours. Generally, Rocephin therapy should be continued for at least two days after the signs and symptoms of infection have disappeared. The usual duration is 4 to 14 days; in complicated infections longer therapy may be required.

In the treatment of meningitis, a daily dose of 100 mg/kg (not to exceed 4 grams), given in divided doses every 12 hours, should be administered with or without a loading dose of 75 mg/kg.

For the treatment of uncomplicated gonococcal infections, a single intramuscular dose of 250 mg is recommended.

For preoperative use (surgical prophylaxis), a single dose of 1 gm administered ½ to 2 hours before surgery is recommended.

When treating infections caused by *Streptococcus pyogenes*, therapy should be continued for at least ten days.

No dosage adjustment is necessary for patients with impairment of renal or hepatic function; however, blood levels should be monitored in patients with severe renal impairment (e.g., dialysis patients) and in patients with both renal and hepatic dysfunctions.

HOW SUPPLIED: Rocephin (ceftriaxone sodium/Roche) is supplied as a sterile crystalline powder in glass vials and piggyback bottles. The following packages are available:

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Vials containing 1 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1964-01).
Piggyback bottles containing 1 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1964-03).
Vials containing 2 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1965-01).
Piggyback bottles containing 2 gm equivalent of ceftriaxone. Boxes of 10 (NDC 0004-1965-03).
Bulk pharmacy containers, containing 10 gm equivalent of ceftriaxone. Boxes of 1 (NDC 0004-1971-01).
NOT FOR DIRECT ADMINISTRATION.

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110



References:

1. Data on file, Hoffmann-La Roche Inc.
2. Patel IH, Kaplan SA: *Am J Med* 77:17-25, Oct 19, 1984.
3. Richards DM, *et al*: *Drugs* 27:469-527, 1984.
4. Cleeland R, Squires E: *Am J Med* 77:3-11, Oct 19, 1984.
5. Tanner DJ, Nazarian MQ: *Am J Med* 77:104-111, Oct 19, 1984.

Rub a Dub Dub, Two Bugs in the Tub

Paul R. Becherer, M.D.

While a whirl in the whirlpool and a dip in the pool may be refreshing, the hazards may involve more than a temporary pruning. Physicians should be aware of the two increasingly recognized entities of Pseudomonas folliculitis and *Mycobacterium marinum* skin infections.

Pseudomonas auruginosa has the unique capability to fix nitrogen and utilize carbon dioxide dissolved in water, allowing it to replicate even in distilled water. This characteristic, as well as the organism's ability to tolerate chlorine and elevated temperatures, makes it well suited for environments such as swimming pools, whirlpools, saunas, physical therapy pools and waterslides, which have all been associated with outbreaks of folliculitis. High water temperature, water turbulence, aeration, heavy bather load, long exposure, tight clothing and possibly young age may contribute to the risk of infection.

Approximately 48 hours (range, 8 hours to 5 days) after exposure, a papular to papulopustular rash develops on any hair-bearing area, with particular predilection for the buttocks, axillae, hips and lateral trunk. This rash may be confused with insect bites, allergic reactions, contact dermatitis, hives, impetigo, or scabies. Associated symptoms have included low grade fever, headache, malaise, and myalgias as well as pharyngitis, external otitis, and mastitis, and occasional nausea and vomiting. Generally considered to be self-limiting, lasting several days to weeks, the infection can occasionally proceed to chronic abcess formation. Therapy is not warranted as the bacteria are rapidly cleared from the skin by neutrophils with the inflammation being related to exotoxin production. Steroids seem to exacerbate the rash, leading to generalization.

Mycobacterium marinum is also associated with swimming pools, as well as with tropical fish tanks and marine-related abrasions. Most commonly seen along the extremities, the infection appears as a crop of papules at the site of trauma with frequent progression to shallow ulcers or scab formation. Occasionally sporotrichoid nodules may develop. The terms "swimming pool granuloma" and "fish tank granuloma" are descriptive in light of the histological appearance of minimally caseating granulomata with occasional organisms. While the organisms may be seen in the exudate or biopsy material, culture of the bacterium requires alerting the laboratory that *Mycobacterium marinum* is in the differential such that the specimen can be cultured at 30° C.

In one study, 16 out of 21 patients had greater than 10 mm of induration to PPD-Platy (*M. marinum*), and 14 out of 20 with no previous tuberculosis exposure had a similar reaction to PPD-S (*M. tuberculosis*). Therapeutic trials for "swimming pool granuloma" have been complicated by the common occurrence of spontaneous remission. Intervention has included excision of the lesion, local heat, electrodesiccation, and chemotherapy. Rifampin plus ethambutol is probably the treatment of choice, particularly in advanced disease, with three weeks of doxycycline or trimethoprim plus sulfamethoxazole being reserved for minor infections. ■

From Chief Resident of Medicine, University of North Carolina School of Medicine, Chapel Hill 27514.

References

1 Gustafson R, et al. Pseudomonas folliculitis: an outbreak and review. Ren Inf Dis 1983;5:1-8.
2 Ratnam S, et al. Whirlpool associated folliculitis caused by *Pseudomonas auruginosa:* report of an outbreak and review. J Clin Micro 1986;23:655-9.
3 Brown J and Sanders C. *Mycobacterium marinum* infections a problem of recognition, not therapy? Arch Int Med 1987;147:817-8.
4 Jolly HW and Seabury JH. Infections with *Mycobacterium marinum*. Arch Derm 1972;106:32-6.
5 Donta S, et al. therapy of *Mycobacterium marinum* infections. Arch Int Med 1986;146:902-4.

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High Quadriplegia– The Ultimate Challenge

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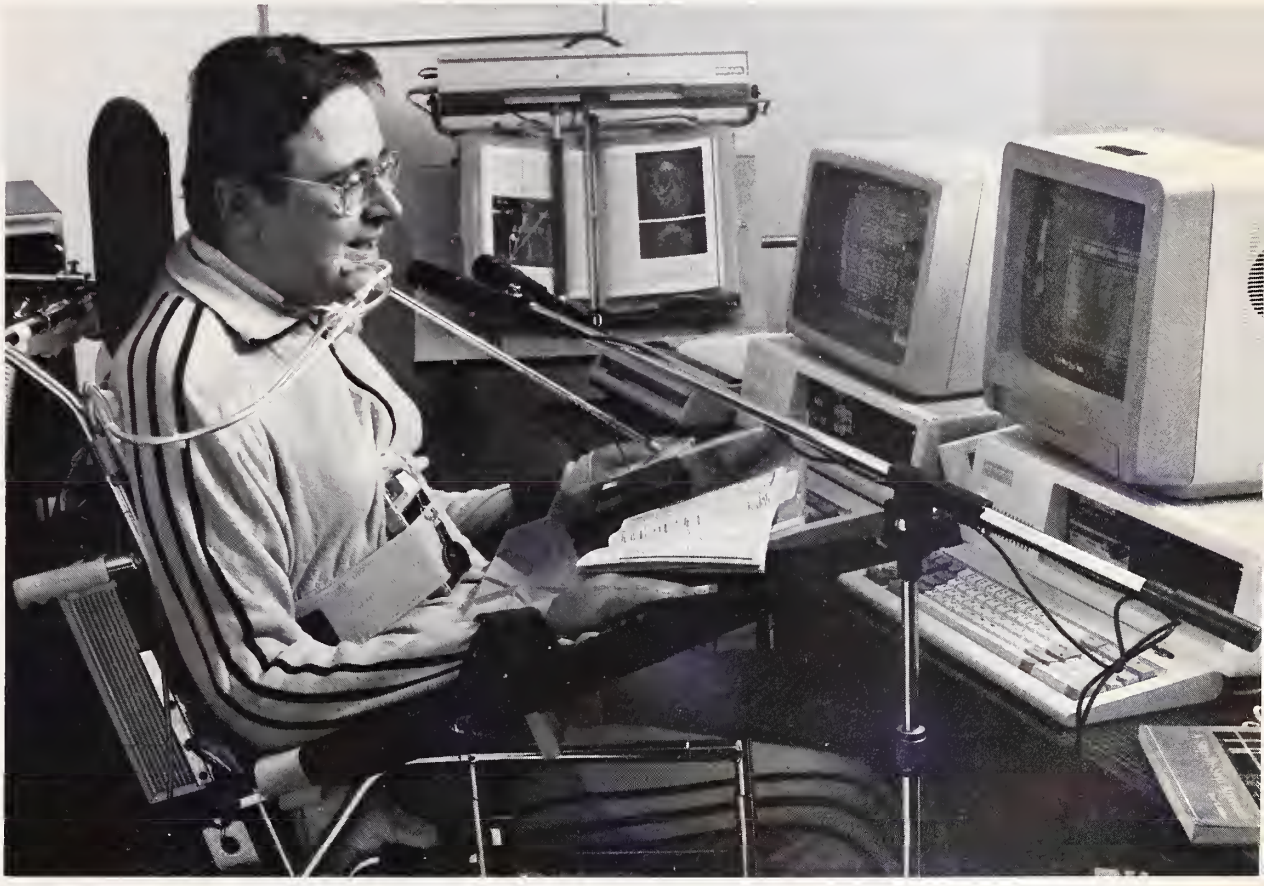
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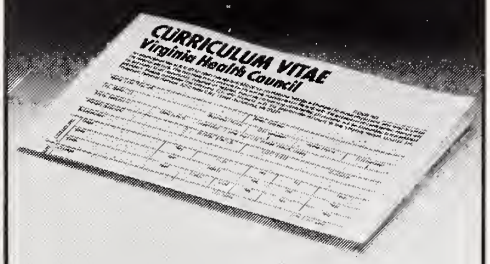
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CONTRAINDICATIONS
There are no known contraindications to the use of sucralfate.

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Duodenal ulcer is a chronic, recurrent disease. While short-term treatment with sucralfate can result in complete healing of the ulcer, a successful course of treatment with sucralfate should not be expected to alter the post-healing frequency or severity of duodenal ulceration.

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Pregnancy: Pregnancy Category B. Teratogenicity studies have been performed in mice, rats, and rabbits at doses up to 50 times the human dose and have revealed no evidence of harm to the fetus due to sucralfate. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when sucralfate is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS
Adverse reactions to sucralfate in clinical trials were minor and only rarely led to discontinuation of the drug. In studies involving over 2,500 patients, adverse effects were reported in 121 (4.7%). Constipation was the most frequent complaint (2.2%). Other adverse effects, reported in no more than one of every 350 patients, were diarrhea, nausea, gastric discomfort, indigestion, dry mouth, rash, pruritus, back pain, dizziness, sleepiness, and vertigo.

DOSAGE AND ADMINISTRATION
The recommended adult oral dosage for duodenal ulcer is 1 gm four times a day on an empty stomach.

Antacids may be prescribed as needed for relief of pain but should not be taken within one-half hour before or after sucralfate.

While healing with sucralfate may occur during the first week or two, treatment should be continued for 4 to 8 weeks unless healing has been demonstrated by x-ray or endoscopic examination.

HOW SUPPLIED
CARAFATE (sucralfate) 1-gm pink tablets are supplied in bottles of 100 and in Unit Dose Identification Paks of 100. The tablets are embossed with MARION/1712. Issued 3/84

References:

1. Korman MG, Shaw RG, Hansky J, et al: *Gastroenterology* 80:1451-1453, 1981.
2. Korman MG, Hansky J, Merrett AC, et al: *Dig Dis Sci* 27:712-715, 1982.
3. Brandstaetter G, Kratochvil P: *Am J Med* 79(suppl 2C):36-38, 1985.
4. Marks IN, Wright JP, Gilinsky NH, et al: *J Clin Gastroenterol* 8:419-423, 1986.
5. Lam SK, Hui WM, Lau WY, et al: *Gastroenterology* 92:1193-1201, 1987.

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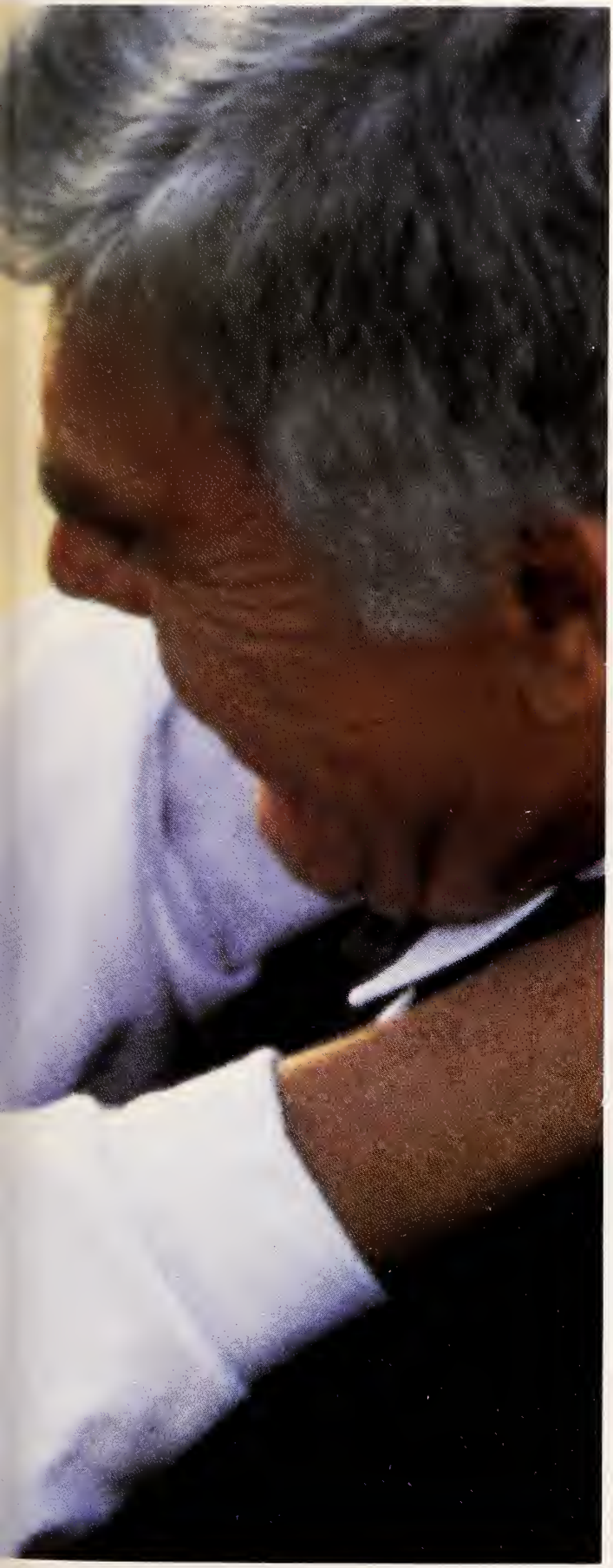
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For atrophic vaginitis

PREMARIN®
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Vaginal Cream

0.625 mg/g



BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION AND PATIENT INFORMATION, SEE PACKAGE CIRCULARS.)*

PREMARIN® Brand of conjugated estrogens tablets, USP
PREMARIN® Brand of conjugated estrogens Vaginal Cream, in a nonliquefying base

1. ESTROGENS HAVE BEEN REPORTED TO INCREASE THE RISK DF ENDDMETRIAL CARCINOMA.
Three independent, case-controlled studies have reported an increased risk of endometrial cancer in postmenopausal women exposed to exogenous estrogens for more than one year. This risk was independent of the other known risk factors for endometrial cancer. These studies are further supported by the finding that incidence rates of endometrial cancer have increased sharply since 1969 in eight different areas of the United States with population-based cancer reporting systems, an increase which may be related to the rapidly expanding use of estrogens during the last decade. The three case-controlled studies reported that the risk of endometrial cancer in estrogen users was about 4.5 to 13.9 times greater than in nonusers. The risk appears to depend on both duration of treatment and on estrogen dose. In view of these findings, when estrogens are used lor the treatment of menopausal symptoms, the lowest dose that will control symptoms should be utilized and medication should be discontinued as soon as possible. When prolonged treatment is medically indicated, the patient should be reassessed on at least a semi-annual basis to determine the need for continued therapy. Although the evidence must be considered preliminary, one study suggests that cyclic administration of low doses of estrogen may carry less risk than continuous administration; it therefore appears prudent to utilize such a regimen. Close clinical surveillance of alt women taking estrogens is important. In all cases of undiagnosed persistent or recurring abnormal vaginal bleeding, adequate diagnostic measures should be undertaken to rule out malignancy. There is no evidence at present that "natural" estrogens are more or less hazardous than "synthetic" estrogens at equi-estrogenic doses.
2. ESTROGENS SHOULD NOT BE USED OURING PREGNANCY.
The use of female sex hormones, both estrogens and progestogens, during early pregnancy may seriously damage the offspring. It has been shown that females exposed in utero to diethylstilbestrol, a nonsteroidal estrogen, have an increased risk of developing, in later life, a form of vaginal or cervical cancer that is ordinarily extremely rare. This risk has been estimated as not greater than 4 per 1,000 exposures. Furthermore, a high percentage of such exposed women (from 30% to 90%) have been found to have vaginal adenosis, epithelial changes of the vagina and cervix Although these changes are histologically benign, it is not known whether they are precursors of malignancy Although similar data are not available with the use of other estrogens, it cannot be presumed they would not induce similar changes. Several reports suggest an association between intrauterine exposure to female sex hormones and congenital anomalies, including congenital heart defects and limb-reduction defects. One case-controlled study estimated a 4.7-fold increased risk of limb-reducfion defects in infants exposed in utero to sex hormones (oral contraceptives, hormone withdrawal tests for pregnancy, or attempted treatment tor threatened abortion). Some of these exposures were very short and involved only a few days of treatment. The data suggest that the risk of limb-reduction defects in exposed fetuses is somewhat less than 1 per 1,000. In the past, female sex hormones have been used during pregnancy in an attempt to treat threatened or habitual abortion. There is considerable evidence that estrogens are ineffective tor these indications, and there is no evidence from well-controlled studies that progestogens are effective for these uses. If PREMARIN is used during pregnancy, or if the patient becomes pregnant while taking this drug, she should be apprised of the potential risks to the fetus, and the advisability of pregnancy continuation

DESCRIPTION: PREMARIN (conjugated estrogens, USP) contains a mixture of estrogens, obtained exclusively from natural sources, blended to represent the average composition of material derived from pregnant mares' urine. It contains estrone, equilin, and 17α-dihydroequilin, together with smaller amounts of 17α-estradiol, equilenin, and 17α-dihydroequilenin as salts of their sulfate esters. Tablets are available in 0.3 mg, 0.625 mg, 0.9 mg, 1.25 mg, and 2.5 mg strengths of conjugated estrogens. Cream is available as 0.625 mg conjugated estrogens per gram.

INDICATIONS AND USAGE: PREMARIN (conjugated estrogens tablets, USP): Moderate-to-severe *vasomotor* symptoms associated with the menopause. (There is no evidence that estrogens are effective for nervous symptoms or depression without associated vasomotor symptoms and they should not be used to treat such conditions.) Osteoporosis (abnormally low bone mass). Atrophic vaginitis. Kraurosis vulvae. Female castration.

PREMARIN (conjugated estrogens) Vaginal Cream is indicated in the treatment of atrophic vaginitis and kraurosis vulvae.

PREMARIN HAS NOT BEEN SHOWN TD BE EFFECTIVE FDR ANY PURPOSE DURING PREGNANCY AND ITS USE MAY CAUSE SEVERE HARM TO THE FETUS (SEE BOXED WARNING).

Concomitant Progestin Use: The lowest effective dose appropriate for the specific indication should be utilized. Studies of the addition ot a progestin for 7 or more days of a cycle of estrogen administration have reported a lowered incidence of endometrial hyperplasia. Morphological and biochemical studies of the endometrium suggest that 10 to 13 days of progestin are needed to provide maximal maturation of the endometrium and to eliminate any hyperplastic changes. Whether this will provide protection from endometrial carcinoma has not been clearly established. There are possible additional risks which may be associated with the incfusion of progestin in estrogen replacement regimens. (See PRECAUTIONS.) The choice of progestin and dosage may be important; product labeling should be reviewed to minimize possible adverse effects.

CONTRAINDICATIONS: Estrogens should not be used in women (or men) with any of the following conditions: 1. Known or suspected cancer of the breast except in appropriately selected patients being treated for metastatic disease. 2. Known or suspected estrogen-dependent neoplasia. 3. Known or suspected pregnancy (see Boxed Warning). 4. Undiagnosed abnormal genital bleeding. 5. Active thrombophlebitis or thromboembolic disorders. 6. A past history of thrombophlebitis, thrombosis, or thromboembolic disorders associated with previous estrogen use (except when used in treatment of breast or prostatic malignancy).

WARNINGS: Estrogens have been reported to increase the risk of endometrial carcinoma (see Boxed Warning). However, a recent large, case-controlled study indicated no increase in risk of breast cancer in postmenopausal women. A recent study has reported a 2- to 3-fold increase in the risk of surgically confirmed gallbladder disease in women receiving postmenopausal estrogens.

Adverse effects ot oral contraceptives may be expected at the larger doses of estrogen used to treat prostatic or breast cancer or postpartum breast engorgement; it has been shown that there is an increased risk of thrombosis in men receiving estrogens for prostatic cancer and women for postpartum breast engorgement. Users of oral contraceptives have an increased risk of diseases, such as thrombophlebitis, pulmonary embolism, stroke, and myocardial infarction. Cases of retinal thrombosis, mesenteric thrombosis, and optic neuritis have been reported in oral contraceptive users. An increased risk of postsurgery thromboembolic complications has also been reported in users of oral contraceptives. If feasible, estrogen should be discontinued at least 4 weeks before surgery of the type associated with an increased risk of thromboembolism, or during periods of prolonged immobilization. Estrogens should not be used in persons with active thrombophlebitis, thromboembolic disorders, or in persons with a history of such disorders in association with estrogen use. They should be used with caution in patients with cerebral vascular or coronary artery disease. Large doses (5 mg conjugated estrogens per day), comparable to those used to treat cancer of the prostate and breast, have been shown to increase the risk of nonfatal myocardial infarction, pulmonary embolism, and thrombophlebitis. When doses of this size are used, any of the thromboembolic and thrombotic adverse effects should be considered a clear risk

Benign hepatic adenomas should be considered in estrogen users having abdominal pain and tenderness, abdominal mass, or hypovolemic shock. Hepatocellular carcinoma has been reported in women taking estrogen-containing oral contraceptives. Increased blood pressure may occur with use of estrogens in the menopause and blood pressure should be monitored with estrogen use. A worsening of glucose tolerance has been observed in patients on estrogen-containing oral contraceptives. For this reason, diabetic patients should be carefully observed. Estrogens may lead to severe hypercalcemia in patients with breast cancer and bone metastases.

PRECAUTIONS: Physical examination and a complefe medical and family history should be taken prior to the initiation of any estrogen therapy with special reference to blood pressure, breasts, abdomen, and pelvic organs, and should include a Papanicolaou smear. As a general rule, estrogen should not be prescribed for longer than one year withouf another physical examination being performed. Conditions influenced by fluid retention, such as asthma, epilepsy, migraine, and cardiac or renal dysfunction, require careful observation. Certain patients may develop manifestations of excessive estrogenic stimulation, such as abnormal or excessive uterine bleeding, mastodynia, etc. Prolonged administration of unopposed estrogen therapy has been reported to increase the risk of endometrial hyperplasia in some patients. Oral contraceptives appear to be associated with an increased incidence of mental depression. Patients with a history of depression should be carefully observed. Pre-existing uterine leiomyomata may increase in size during estrogen use. The pathologist should be advised of estrogen therapy when relevant specimens are submitted. If jaundice develops in any patient receiving estrogen, the medication should be discontinued while the cause is investigated. Estrogens should be used with care in patients with impaired liver function, renal insufficiency, metabolic bone diseases associated with hypercalcemia, or in young patients in whom bone growth is not yet complete. If concomitant progestin therapy is used, potential risks may include adverse effects on carbohydrate and lipid metabolism.

The following changes may be expected with larger doses of estrogen:

a. Increased sulfobromophthalein retention.

b. Increased prothrombin and factors VII, VIII, IX, and X; decreased antithrombin 3, increased norepinephrine-induced platelet aggregability.

c. Increased thyroid binding globulin (TBG) leading to increased circulating total thyroid hormone, as measured by PBI, T_4 by column, or T_4 by radioimmunoassay. Free T_3 resin uptake is decreased, reflecting the elevated TBG; free T_4 concentration is unaltered

d Impaired glucose tolerance.

e. Decreased pregnanediol excretion.

f. Reduced response to metyrapone test.

g Reduced serum folate concentration.

h. Increased serum triglyceride and phospholipid concentration.

As a general principle, the administration of any drug to nursing mothers should be done only when clearly necessary since many drugs are excreted in human milk.

Long-term, continuous administration of natural and synthetic estrogens in certain animal species increases the frequency of carcinomas of the breast, cervix, vagina, and liver. However, in a recent, large case-controlled study of postmenopausal women there was no increase in risk of breast cancer with use of conjugated estrogens.

ADVERSE REACTIONS: The following have been reported with estrogenic therapy, including oral contraceptives: breakthrough bleeding, spotting, change in menstrual flow; dysmenorrhea; premenstrual-like syndrome; amenorrhea during and alter treatment, increase in size of uterine fibromyomata; vaginal candidiasis, change in cervical erosion and in degree of cervical secretion; cystitis-like syndrome; tenderness, enlargement, secretion (of breasts); nausea, vomiting, abdominal cramps, btoating; cholestatic jaundice; chloasma or melasma which may persist when drug is discontinued; erythema multiforme; erythema nodosum; hemorrhagic eruption, loss of scalp hair; hirsutism; steepening of corneal curvature; intolerance to contact lenses; headache, migraine, dizziness, mental depression, chorea; increase or decrease in weight; reduced carbohydrate toterance; aggravation of porphyria, edema, changes in libido.

ACUTE OVERDOSAGE: May cause nausea, and withdrawal bleeding may occur in females.

DOSAGE AND ADMINISTRATION:

PREMARIN® Brand of conjugated estrogens tablets, USP

1. *Given cyclically for short-term use only.* For treatment of moderate-to-severe *vasomotor* symptoms, atrophic vaginitis, or kraurosis vulvae associated with the menopause (0.3 mg to 1.25 mg or more daily). The lowest dose that will confrol symptoms should be chosen and medication should be discontinued as promptly as possible. Administration should be cyclic (eg, three weeks on and one week olt). Attempts to discontinue or taper medication should be made at three- to six-month intervals.

2. *Given cyclically:* Osteoporosis. Female castration. Osteoporosis —0.625 mg daily. Administration should be cyclic (eg, three weeks on and one week off). Female casfration—1.25 mg daily, cyclically. Adjust upward or downward according to response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control.

Patients with an intact uterus should be monitored for signs of endometrial cancer and appropriate measures taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

PREMARIN® Brand of conjugated estrogens Vaginal Cream

Given cyclically for short-term use only. For treatment of atrophic vaginitis or kraurosis vulvae.

The lowest dose that will confrol symptoms should be chosen and medication should be discontinued as promptly as possible.

Administration should be cyclic (eg, three weeks on and one week off).

Attempts to discontinue or taper medication should be made at three- to six-month intervals.

Usual dosage range: 2 g to 4 g daily, intravaginally, depending on the severity ot the condition.

Treated patients with an intact uterus should be monitored closely for signs of endometrial cancer and appropriate diagnostic measures should be taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

References:

1. Lindsay R, Hart DM, Clark DM: The minimum effective dose ot estrogen for prevention of postmenopausal bone loss. *Obstet Gynecol* 1984;63:759-763. **2.** Studd JWW, Thom MH, Paterson MEL, et al: The prevention and treatment of endometrial pathology in postmenopausal women receiving exogenous estrogens, in Pasetto N, Paoletti R, Ambrus JL (eds): *The Menopause and Postmenopause.* Lancaster, England, MTP Press Ltd, 1980, chap 13

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Physicians and Providers

Robert A. Gutman, M.D.

On the chart of a recently hospitalized patient was a note written by a medical doctor. It was titled: "(name of an insurance organization) primary provider." I was disturbed by this self description. Why should a graduate of a medical school and of a post-graduate program call himself a "provider" (defined by Webster, 1977 as ". . . one who provides")? Instinctively, I would have called him a physician (". . . a person skilled in the art of healing . . . exerting a salutary influence").

My first reaction was annoyance at the modern penchant to use jargon apparently designed to achieve a chummy relationship between the "provider" and the "consumer," another recent addition to our terminology. But language has an insidious ability to influence as well as reflect thought. At issue is the compelling possibility that this individual's concept of his role differs from mine; he may not be comfortable in the role of physician. He may really see himself largely in the new role of provider.

I acknowledge that the world needs providers and possibly even providers with medical degrees. These are the people who "provide" access to the medical care system; the people who "provide" sound sensible advice to the walking worried and the potentially ill, the employed enrollees in capitated medical plans whose managers confess that they can't afford sick people. These capitated plans call themselves "Health Maintenance Organizations" and often use the term "provider" when referring to their doctors. Presumably if they have picked the right providers, health really will be maintained, at least for the group at large, and costs will be reduced. Good providers should ultimately put physicians out of business.

In the meanwhile, it seems to me that employers and HMOs prefer to employ providers, while sick people prefer to have physicians. Maybe physicians care too much for sick people and cost society too much money. But which individual would feel that way when he or a member of his family is sick? Other rhetorical questions come to mind. What becomes of the provider when his enrollee becomes a patient? I don't mean simply a pregnant enrollee or an enrollee with a fracture that will heal soon or a bad cut that can be sewn in one evening; but really truly sick with a chronic illness, with a problem that won't go away, with that gnawing, fearful, sinking feeling that life is changing and there is nobody to talk to, nobody to counsel, nobody willing to have spent the hours in preparation for these difficult moments. Having spent most of his time caring for the herd of well people and their concerns, and their need for prophylaxis, for immunization, for education, for dietary counseling, for advice on exercise, is he now prepared to be also a physician — prepared either emotionally or educationally? The medical school graduate who has been persuaded to see himself as a provider may not be able to assume the physician's mantle.

The dilemma, if not the solution, is becoming clearer. Society, when making decisions in an abstract frame, wants providers. People, acting as individuals, want physicians. Most of us see ourselves as physicians, although apparently not all of us do. I assumed that was the purpose of my education and, likely, you made the same assumption. But what of this perceived and possibly real need for providers? Can the physician assume the role of provider? Or do we need two different sorts of people graduating from medical schools?

Tradition may provide some answers. The pediatricians among us would find this discussion a little arcane. For years, they have successfully walked both paths, though they certainly never would have used the word provider to describe themselves. There are other groups and certainly many other individuals who take the same position in self assessment. Still, society's perception is that it needs to train new doctors to work for the insurance companies and for the employers in order to reduce the need for sickness care and replace it with "health care." Consequently, new money and departments for this training have arisen and grown over the last decade. This trend is no longer surprising, nor is it likely to change. But if the graduates no longer see themselves as primarily physicians, we have thrown out the baby as well. ■

From Suite 604, Central Medical Park, 2609 North Duke Street, Durham 27704.

EDITORIAL

The Names and Faces of Medicine

Francis A. Neelon, M.D.

One of the great revelations of my adult life (that is, the time long past medical school and residency and fellowship training) has been the realization that Medicine is, *in itself,* a proper subject for scholarly inquiry and study. Up until then, although no one told me so in direct terms, I had been surrounded by people who acted as though Medicine was what the holders of an M.D. degree did after they had tried and failed in a career of laboratory-based investigation. Physiology, pathology, biochemistry, molecular biology — these were the stuff of "academic medicine," the bases of careers in understanding the human body gone askew and in the management of disease. The practice of medicine, the care of the patient, the life of the clinic were passed over; not directly slighted, but demeaned by indirection and the faintest of praise.

Despite this shortchanging of the worth of medical practice (possibly because of it), it has pleased me to slowly realize that medicine has something that none of those disciplines named above has: a genuine History. I suppose one could trace the origins of biochemistry to the putterings of the alchemists or describe how Claude Bernard began physiology. But any of those stories would be only a footnote on the pages of the history of medicine. Unfortunately many of us in medicine remain unclear about the rich traditions and unbroken lineage of clinical practice, dating as it does to the ancient Greeks and beyond. Nevertheless, all of us profit from a sense of our forebears and of what we have become from what we were. Neil Postman[1] quotes Cicero: "To remain ignorant of things that happened before you were born is to remain a child," for "what is a human life worth unless it is incorporated in to the lives of one's ancestors and set in an historical context?" Then Postman adds a postscript of his own: "By 'ancestors' Cicero did not mean your mother's aunt." Amen.

When I was a student, my professors sometimes bemoaned the presence and prevalence of eponyms in clinical medicine. Now I come to sing the praises of eponyms; to glory in the histories of those individuals who donated their names to clinical signs and symptoms and phenomena. These are *our* ancestors and their "faces" are with us every day, traced on the bodies of our patients. With this issue of the *Journal,* we begin what we hope will be a regular section: *The Names and Faces of Medicine.* Dr. Lurie and I have captured the likeness of Baron Dupuytren as reflected in his "contracture" and proceeded to compile a biographical vignette about the celebrated gentleman (p. 452). We hope that you will like it and, even more, we hope to impel some of you to contribute something of your own.

If the spirit moves you, get a photo of the clinical "face" and tell us about the name that goes with it. Working together we should be able to compile a veritable gallery of portraits of the Truly Great — those who have gone before us and have "left the vivid air signed with their honour." ■

From the Department of Medicine, Duke University Medical Center, Durham 27710.

Reference

1 Postman, N. Teaching as a conserving activity. New York: Delta Publishing, 1979.

Should Homeopathy Be Reconsidered?

J.K. Crellin, M.D., Ph.D.

North Carolina is unwittingly the focus of international attention following a recent action of the state's Medical Board of Examiners. The Board suspended the medical licence of Asheville physician Dr. George Guess for practicing homeopathy. According to the decision, Dr. Guess contravened the North Carolina General Statute Section 90-14 (a) 6: failure to conform to the "standards of acceptable and prevailing practice in the state of North Carolina." That is because of Dr. Guess' use of homeopathic medicines "prepared from substances including, but not limited to, moss, the nightshade plant and various other animal, vegetable and mineral substances."

In this article I am not concerned with such specific points raised by the decision as whether or not the statute, when enacted, was intended to eliminate homeopathy, or if the decision protects the public; after all, non-medically qualified persons continue to practice homeopathy in the state. Rather, I shall consider various points raised in debates over homeopathic medicine, which, after nearly two hundred years, is little understood and widely viewed as quackery.

Undoubtedly, questions about homeopathy in North Carolina will soon emerge into the limelight in consequence of continuing Court action over the Medical Board's decision on Dr. Guess. Consideration may well be given to concerns that North Carolina is not allowing patients the same free choice as is now available in other states, and in other countries such as Britain, where the National Health Service pays for homeopathic care. There, as elsewhere, substantial numbers of physicians have, like Dr. Guess, recently added homeopathy to their regular medical armamentarium. There is much concern among physicians and health administrators over the efficacy of homeopathic medicine and over its standards in comparison to those of regular practice.

Efficacy and the Historical Perspective

Arguments favoring homeopathic medicine in recent refereed medical and pharmaceutical journals generally rest on the existence of an historical "pedigree" and on evidence from double blind, clinical trials.

The support from history rests on the persistence of certain concepts once readily found in regular medicine and now current in homeopathy, for instance, that one disease can cure another. In addition, such historical figures as Hippocrates and Paracelsus are viewed as forerunners of homeopathy because of their promotion of this and other concepts. Yet, in the absence of detail and evidence that the concepts are really common to both homeopathic and regular medical practice, historical "pedigrees" convince few skeptics.

Discussions on the founder of homeopathy, Samuel Hahnemann (1753-1843), also fail to influence skeptics, partly because few accounts make clear his firm grounding in eighteenth-century medical ideas from which he developed basic homeopathic concepts. One such concept is his "law of similars," which asserts that small doses of a drug are therapeutically valuable for those symptoms produced by toxic doses of the same substance. Hahnemann's demand for first-hand observations of disease and treatment, his critical assessments of the "healing power of nature," and his sympathy with concepts of vitalism were all concerns conspicuous among his contemporaries. Likewise, his criticism of existing regular medical practices found much agreement among regular physicians, even though, as homeopathy became established and aroused opposition, this criticism was seemingly more self-serving than objective. All this suggests that to dismiss Hahnemann as a quack is an over-simplification. Although his empiricism was further along the spectrum toward radical skepticism than were the philosophies of most of his contemporaries, it rested on acceptable scientific methods. Critics of homeopathy can gather much understanding of its aims and ideals from Hahnemann's life and aspirations.

Many who see Hahnemann as a practitioner of his time still dismiss present-day homeopathic practice. It is now viewed as anachronistic and out of keeping with today's scientific medicine. Hahnemann's own criticism of those who concoct "so-called systems" out of "vagaries and hypotheses" is now applied to "outdated" notions of vi-

From the Department of Community and Family Medicine, Duke University Medical Center, P.O. Box 3702, Durham 27710.

talism employed by homeopaths to rationalize the use of infinitesimally small doses of drugs. Those who consider homeopathy from the "cultural norm" of modern science generally find, more than anything else, the impossibility of accepting the idea that homeopathic medicines, particularly in dilutions greater than 10^{-24}, can be effective. After all, according to Avagadro's Law, the number of molecules in one gram molecule of substance is 6.023×10^{23}, and hence there are no molecules left in many homeopathic medicines. The view that drugs leave "imprinted" information, like a template, in the form of energy on water molecules is rarely accepted outside homeopathy, despite interest in rationalizations of this based on physical chemistry.

Even apart from the conceptual difficulty over homeopathic dilutions of drugs, numerous physicians express hostility toward the botanical and animal products employed. They see them as "obsolete." Other observers view this as overly critical. Although one might find fault with the fact that homeopathic practitioners do not employ conventional pharmacological classifications or regular therapeutic practices, one should appreciate that innumerable plant remedies were central to regular medicine until just about fifty years ago or so. Furthermore, many such remedies disappeared not because they were considered ineffective, but because they were replaced by more "modern" chemical remedies. In fact, our knowledge of the precise action of most herbs is limited, and using them to characterize homeopathy as archaic — irrespective of its efficacy — is open to charges of inappropriate or illogical comparisons. In a similar vein, should homeopathy be dismissed on the grounds that even if it was useful when regular medicine was more "primitive," it is now valueless? This either ignores, or dismisses as anecdotal, countless documented cures and numerous assessments that "clearly it works: millions of people the world over are treated homeopathically every day." Is there validity to the clinical data, independent of the vitalist theory that upsets so many physicians? Homeopathic practitioners who have long answered this positively on the basis of clinical experience now appreciate that more rigorous evidence is necessary if homeopathy is to gain wider acceptance. They recognize not only the modern reliance of therapy on double blind, clinical trials, but also the tendency to dismiss any therapeutic effect that does not have a plausible pharmacological explanation as "mere placebo."

Clinical Trials

Double blind, clinical trials of homeopathic medicines have been published recently in regular rather than homeopathic medical journals. Three, in the *Lancet* and the *British Journal of Clinical Pharmacology,* have aroused much interest, though more in terms of questions raised than definite conclusions provided. A 1980 paper argued that homeopathic treatment significantly improved rheumatoid arthritis compared with placebo; a 1983 trial of Rhus tox of 6x dilution showed no significant difference compared with placebo in the management of osteoarthritis, and a 1986 study on treating allergies concluded that homeopathic preparations of pollen were significantly better than a placebo. Responses by the medical profession to these papers — and to trials published in German regular medical journals — have raised many questions over experimental methodology. The 1983 paper on treating osteoarthritis has been widely used to criticise homeopathy without reference to the authors' dismay over "overreaction on all sides to its findings." Generalizations, they say, cannot be extended to cover homeopathic medicine in general: "the most important lesson (from the study) is that a double blind crossover trial of short duration using a single potency of a remedy for local factors is unlikely to be a fruitful method of seriously studying homeopathic medicine."

Undoubtedly, many studies are needed to determine the precise roles of specific drugs and of placebo action within homeopathic treatment. There is little doubt that placebo action is at least as powerful, if not more, in homeopathic as in regular medicine, especially since homeopathic practitioners provide more practitioner-patient contact time. Additionally, the "alternative" status of homeopathy encourages among many patients the sort of conviction, faith really, that promotes placebo responses.

That various features of homeopathy encourage placebo action arouses antipathy among physicians who consider deliberate encouragement of placebo response to be unethical. Others, however, perhaps more conscious of the prominent role of placebo action within regular medicine, disagree on the basis that a favorable outcome for a patient justifies the means. Nevertheless, many who take this open-ended position still recognize that maintenance of appropriate standards of care must be constant.

Standards of Care

Whether or not physicians maintain an open mind toward homeopathy — at least until more experimental studies have been undertaken — may depend on the existence of standards uniformly applied and comparable to the standards of regular medicine. Any discussion about standards (quality) of medical care raises diverse opinions about appropriate methods of assessment, and certainly with homeopathy it is important to seek an evenhandedness in assessment.

Standards are often applied in a double-edged manner to all forms of alternative medicine, more often than to regular practice. If one assessment — the measurement of the outcome of illness — is satisfactory, then an alternative approach — assessment of the process by which care is given — is commonly found wanting; or vice versa. Additionally, while the innumerable, well-documented variations within regular medical care (often called practice style factors) are usually embraced, even if frowned upon, within "acceptable standards," the same latitude is not given to alternative

practices. One reason is that diverse practice style factors are justified as an art if not as a science, a luxury not afforded to homeopathy. If there is a lack of consensus over data or its interpretations, regular physicians respond — perhaps even with an extravagant use of antibiotics — according to the "art of medicine."

Even apart from such inconsistencies, considerations of standards in homeopathy are complicated by the diversity of practitioners. These include those with regular medical qualifications, some who enter the field through core training in naturopathy or anthroposophy, and others with little formal training. In fact, assessments of homeopathy have long been frustrated by variable practices. Nowadays substantial differences exist between homeopathy in America and in France, where more aggressive therapy is practiced. While some consider that variation in homeopathic practice reflects openness and self-assessment and is a strength, variation has undermined the search for a consistent body of empirical data. Organizations such as the American Institute of Homeopathy encourage standards with respect to practice procedures, but rarely in the context of relationships between homeopathy and regular medical practices, or risks and benefits for patients.

Yet even without clear guidelines, risk-benefit assessment is routine among homeopathic practitioners with regular medical qualifications. They examine closely the merits of offering either homeopathic or regular medical care. ("Safe drugs may be dangerous drugs if they are ineffective in treating serious disease.") A particular concern is sequelae from Group A β-hemolytic streptococcal pharyngitis or sore throat. Although the availability of rapid tests for streptococcal antigen, albeit not foolproof, is simplifying management, homeopathic physicians are always conscious of risks of withholding antibiotics. Decisions on whether antibiotics are to be prescribed are based on evaluations of past and present medical history, physical examination (recognizing that many streptococcal throat infections are asymptomatic or very mild), and laboratory tests. All the data are reviewed in the light of such factors as the recent marked decline in the incidence of rheumatic fever among certain socioeconomic levels, the infrequency of streptococcal infections in children under the age of three, at least in the United States, and that the risk of glomerulonephritis from not treating a sore throat is only slightly higher than when antibiotics are given. Decisions also take into account the patient's commitment to homeopathic treatment and the patient's fear of antibiotics because of side effects not found with homeopathic medicines. In fact, a positive feature in deciding on homeopathic or regular medical treatment is that patients are actively involved, which can be particularly valuable for the therapeutic relationship. A homeopathic physician, too, commonly alters treatment if a condition worsens, and may then prescribe antibiotics with the recognition that brief delays in, say, managing a streptococcal pharyngitis or sore throat do not put the patient at extra risk from complications.

Assessing the effectiveness of homeopathy by measurement of outcome presents as many difficulties as assessing procedures, in part because of the lack of precise statistics from homeopathic physicians. Further, it is clear that there are self-imposed limits among many homeopaths, such as a reluctance, if not refusal, to treat cancer and acute medical conditions.

Should We Reconsider Homeopathy?

Should we reconsider homeopathy? Many physicians answer this affirmatively on the grounds that new insights into neuroregulatory mechanisms (peptides, endorphins) may provide a more acceptable theoretical framework than vitalism; others are awaiting the outcome of more double blind, clinical trials, and some — probably few — believe that since homeopathy is a safe form of care (no side-effects), it provides a service for patients who obtain no relief from regular practice. If the gist of this article encourages a sense that homeopathy merits consideration by physicians, it should be stressed that serious concerns exist, even within the ranks of homeopathy.

One concern is that while those who critically examine and combine regular and homeopathic medicine may be in a position, like their forerunners in the nineteenth century, to encourage a widespread critical reevaluation of some fashions in regular medical therapy, other homeopathic practitioners with limited training may be creating unnecessary risks for patients. Without first-hand experience with the approaches of regular medicine, difficulties are considerable in evaluating the risks and benefits of various therapeutic approaches.

Another concern is the quality of homeopathic medicines. An essential feature in preparing these is enhancing or "potentising" the effects of very dilute solutions, in which case impurities may be similarly "potentised" and interfere with efficacy. Indeed, contamination is a very real problem, one recognized by homeopathic practitioners but only partially dealt with. Standards are established, but they are not always followed, and as a result some companies have better reputations than others for the quality of their products. It is unclear how much the variable quality of medicines — let alone the deliberate fraudulence of some — hinders accurate assessment of homeopathic practices. Such issues are especially relevant to homeopathic medicines employed for self-treatment; indeed many question whether or not self-treatment is compatible with the philosophy of and approach to prescribing homeopathic remedies for a symptom complex. On the other hand, homeopaths see much self-treatment as a form of first-aid and stress that if there is not rapid improvement professional advice is needed.

Reconsidering homeopathy can take many directions. For instance, does it offer quantifiable therapeutic effects? Does it consider adequately the risks and benefits? How much of

a social and medical role does it have as an alternative or a complement to regular medical practices?

It is a trite truism to say that there are pros and cons to each issue; nevertheless, ideally, the medical profession should appreciate these, if only because homeopathy is pursued and sampled by many patients and is perhaps regaining the social force it once had. Physicians may feel that in the past the medical establishment controlled homeopathy with concerted policies, and that it can do so again. Maybe, but careful consideration has to be given to the changed circumstances of medicine and the public attitudes toward it. ■

References and Suggested Reading

Recent reviews of homeopathy (some critical) in literature generally unsympathetic to alternative medicine include:

Davies AE. The scientific basis and practice of acupuncture and homeopathy. Trans Med Soc Lond 1975-77;92-93:86-94.

Pinsent RJFH. Why not reconsider homeopathy. J Roy Coll Gen Pract 1980;30:372.

Morowitz HJ. Much ado about nothing. Hosp Pract 1982;17:215-6.

Twentyman LR. The nature of homoeopathy. Roy Soc Health J 1982;102:221-5.

Lee F. Trends in homeopathy. Pharm Int 1982;4235-7.

Lee F. The 'evidence' for homeopathy. Can Med Assoc J 1985;132:840-9.

Lee F. On homeopathy: another modern-day perspective. Amer Pharm 1985;3:215.

Sharp JR. Some reflections on homeopathy. Pharm J 1986;236:758-60.

For historical perspective:

The basic text by Hahnemann, Organum der Rationellen Heilkunde, in innumerable editions and translations since the first edition of 1810, is invaluable. Two of numerous accounts of Hahnemann are especially helpful:

Bradford TL. The life and letters of Samuel Hahnemann. Philadelphia: Boericke & Tafel, 1985.

Henne, H. Hahnemann. A physician at the dawn of a new era. Stuttgart: Hippokrates Verlag, 1976.

Two discussions giving reference to secondary sources:

King LS. The medical world of the eighteenth century. Chicago: University of Chicago Press, 1958, pp. 157-91.

Blake J. Homeopathy in American history: a commentary. Trans Coll Phys Philad 1981;3:83-92.

For clinical trials:

Gibson BC. Homoeopathic therapy in rheumatoid arthritis: evaluation by double-blind clinical therapeutic trial. Brit J Clin Pharmacol 1980;9:453-9.

Shipley M. "Controlled trial of homoeopathic treatment of osteoarthritis." Lancet 1983;1:97-8 (for comments, The trial of homeopathy, *ibid* 108).

Reilly DT, et al. "Is homoeopathy a placebo response? Controlled trial of homeopathic potency with pollen in hayfever as model. Lancet 1986;2:881-6.

Selected readings for other points raised:

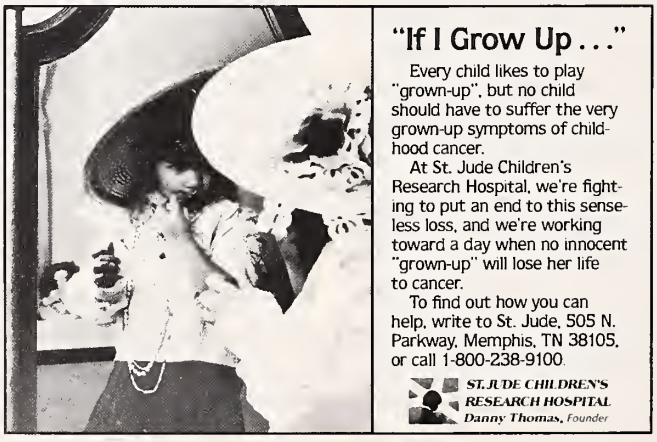
Taylor JL, Howie JGR. Antibiotics, sore throats and acute nephritis. J Roy Coll Gen Pract 1983;33:783-6.

Bisno AL. The rise and fall of rheumatic fever. J Amer Med Assoc 1985;254:538-41.

Shulman ST (ed). Pharyngitis: management in an era of declining rheumatic fever. New York: Praeger, 1984.

Kerr HD, Sargon LA. Arsenic content of homeopathic medicines. J Tox Clin Tox 1986;24:451-9.

Gevitz N. Sectarian medicine. J Amer Med Assoc 1987;257:1636-40.



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Dupuytren's Contracture:

an idiopathic flexion deformity of the hand caused by retractile sclerosis of the palmar aponeurosis and comprised of two types of lesions, nodules and retractile bands (shown above in three photos of two patients with typical Dupuytren's contracture). It affects any or all of the fingers of the hand, but spares the thumb. Only the retractile bands cause severe digital flexion. Severe cases can be treated by fasciotomy or fasciectomy.

Baron Guillaume Dupuytren was the pre-eminent surgeon of his day. He is remembered to us in the name of the disease he described in 1831, but his life and times were of a rich texture and make an interesting study. He was born a subject of the King in 1777 and died in 1835, having lived through two revolutions, a republic, an empire, and two royal restorations, and having risen to the pinnacle of the surgical profession.

The eighth of nine children, as a young man Dupuytren wanted to join the army, but his father (a lawyer) insisted that he become a surgeon. He enrolled at Limoges and transferred to Paris where he brought limitless energy to his studies. Although he had become ill on first exposure to the dissecting room, he soon developed a passionate love for anatomy. In 1802 Dupuytren was named second surgeon at the Hotel Dieu, largest of the French hospitals, and, in 1808, joint chief-surgeon under Pelletan, a tenure marked by conflict. The tension created by new advances which Dupuytren embraced and old traditions to which Pelletan clung was exacerbated by their ill-matched personalities. Pelletan was staid and unhurried, even indolent; Dupuytren ambitious, energetic, and infinitely self-confident. Pelletan insisted on being present at Dupuytren's operations and forbade him to try new techniques; Dupuytren, in turn, exercised his right to attend Pelletan's ward rounds where our Baron often intimidated his chief with silence or superior knowledge.

The tension lasted until Pelletan's departure in 1815, whereupon Dupuytren became chief surgeon. The "Age of Dupuytren" had begun, and would continue until his death in 1835. His lectures and extensive practice made him the leading surgeon in France, if not all Europe. His list of surgical firsts, before the discovery of ether anesthesia, includes: excision of the lower jaw (1812); successful treatment of aneurysm by compression (1818); treatment of wry neck by sternocleidomastoid section (1822); and successful ligation of the external iliac (1815) and subclavian arteries (1819). His most enduring contributions are in surgical pathology, including descriptions of Dupuytren's fracture of the distal fibula (1819) and Dupuytren's contracture, for which he devised an operation (1832). As his fame grew, so too did his practice and his fortune. He served as surgeon to Louis XVIII, who made him a baron, to Charles X, successor to Louis and to the Baron James de Rothschild. From his humble beginnings Dupuytren amassed a fortune of four million francs.

Duputren ruled the Hotel Dieu with an iron hand. Customarily gentle with his patients, he was demanding and punitive with his students, who spoke only when spoken to. Any opposition or interference evoked an explosion of anger from which no one was safe. A poor peasant woman once incautiously entered the operating room where he was preparing to amputate her child's leg. Dupuytren drove her from the room with a "coup de pied dans le derriere."

Dupuytren's health began to fail in 1833 when, during a lecture, he felt his right cheek droop and found that he could not completely lower his right eyelid. The astute diagnostician did not mistake his own evolving stroke, but the proud chief-surgeon could not let it interfere with his duties. Resting his cheek on his hand so that no one else would notice, he finished the lecture, but he did not recover his health.

In January 1835, he developed an empyema. He considered operation but decided that death was his destiny. He preferred God's hand to the surgeon's, and died twelve days after his diagnosis. ■

—Scott N. Lurie, M.D. and Francis A. Neelon, M.D.
Duke University Medical Center, Box 3021, Durham 27710.

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Run for the Roses

KENNETH J. WELCH

A couple of years ago as I watched the graduating students receive their medical degrees during the convocation ceremony of our medical school, I began to think about the Kentucky Derby which was to be run the next day. It occurred to me that many parallels could be drawn between that magical race and the milieu of medical education.

My mind raced with the students marching across the stage accepting their degrees as I tried to figure out which ones might be thought of as favorites and who the long shots would be. No matter! No Woody Stephens derby entry has ever been more thoroughly groomed than students entering medicine today. Certainly, the families of these new MDs were just as proud as the owners of each Derby entry, regardless of the odds at race time.



Indeed, as I considered the experiences of these individuals during the past four years, the track at Churchill Downs seemed to symbolize the modern-day medical curriculum with each of its four turns representing one year of medical school. Like the basic science years of medical school, the first two turns at Churchill Downs select in favor of raw speed and competitiveness. However, as the field approaches the third and fourth turns, raw speed and competitiveness give way to stamina and "heart," an inborn trait unique to truly great race horses. Similarly, as medical students approach the clinical years, compulsivity and competitiveness yield to sincerity and clinical reasoning which, like "heart," are largely dependent upon inherent features.

As the field exits turn four and heads for home, the jockeys must turn to the whip in the final test of breeding and preparedness. It is not until this point in the race that the riders learn their mounts' full potential. Likewise, following match day the senior students are forced to reach for inner strength and test their commitment for their chosen careers in the intervening months before graduation and the beginning of residency.

And so went convocation . . .

The next day as the pre-race ceremonies got under way with all their color, my mind wandered back to the day before, when I had compared medical school to the Kentucky Derby. I could not help wondering what pseudonyms medical students might assume when I contemplated such names as "Spend A Buck," "I Am The Game," "Chief's Crown," and "Eternal Prince" in that Derby. Quickly, "Mack The Knife" came to mind, and "Onchoman," "Eye Spy," "Rheumatolstoy" and "Bold Delivery." As race time approached, I imagined how the race would be called with entries like these. I allowed it might go something like this:

From School of Medicine, East Carolina University, Greenville 27858. Illustration by Ernest A. Craige, M.D.

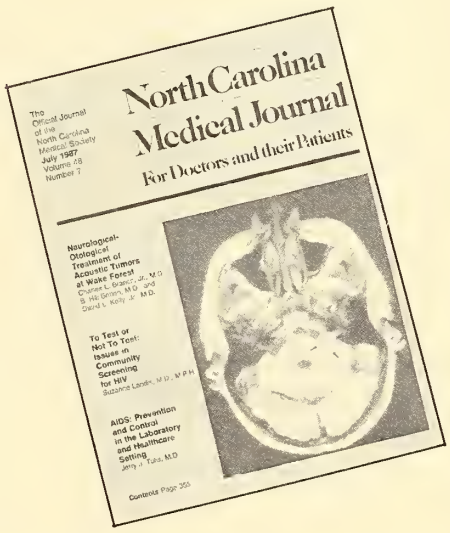
The field is set . . . and they're off! . . . It's Bold Delivery on the inside with Eye Spy, Mack The Knife, and Rheumatolstoy just back with Onchoman bringing up the rear. . . . Into turn one it's Bold Delivery out in front with Eye Spy back by two lengths followed by the rest of the field. . . . Out of one and into turn two Mack The Knife is making a move on the outside, with Bold Delivery still setting the pace. . . . Onto the back stretch Bold Delivery and Mack The Knife are neck and neck with Eye Spy closing fast followed by Rheumatolstoy and Onchoman. . . . Entering turn three it's Eye Spy with the lead by one followed by Mack The Knife, Rheumatolstoy, Bold Delivery, and Onchoman. . . . Through three quarters it's Eye Spy, Rheumatolstoy, Mack The Knife, Bold Delivery, and Onchoman. . . .

Rounding turn four Rheumatolstoy's gaining ground on Eye Spy with Onchoman beginning to make his move. . . . Heading for home it's Rheumatolstoy out in front by a half with Onchoman coming hard. . . . Bold Delivery and Mack The Knife are off the pace. . . .

Nearing the wire it's Rheumatolstoy in the lead with Onchoman closing fast . . . but it's Rheumatolstoy at the wire the winner by a nose! ■

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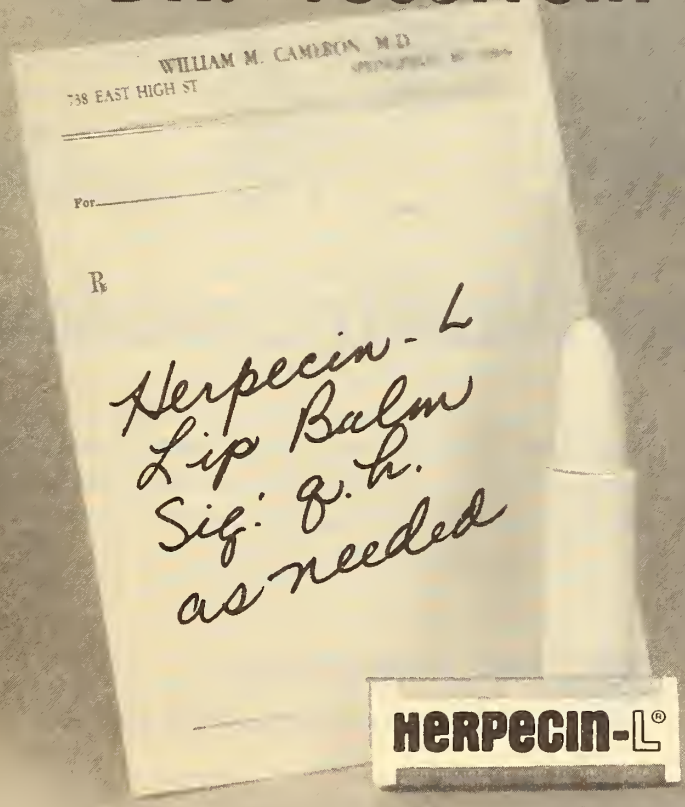


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The Open Door Medical Clinic: A Community Response to the Medically Indigent

Don Lucey, M.D., and Sheila Parker, Ph.D.

Poverty often robs its victims of their health. Poor health guarantees the continuation of poverty for the medically indigent. The poor and the near-poor certainly cannot afford to pay the high costs of health care.

According to the Center for Health Policy Research and Education at Duke University, 1,900,000 North Carolina residents are medically indigent. Of the poor in our state, 42% have no health insurance coverage of any kind. Government programs have not been adequate in meeting the needs of the medically indigent.

Opening the Door

What are the alternatives? This was the question asked by some members of the Wake County Medical Society. It was clear that there were many individuals in Wake County who were not being served by the existing health care system because they had no health insurance, no Medicaid coverage, and no funds to pay for health care. Concern about this situation led to the organization of a planning committee comprised of eight health care professionals from the Raleigh community. The committee planned a free health clinic that would provide medical and dental care to those who could not pay. Knowing that accessibility was an important factor, the committee found a central downtown site for the clinic in the basement of the Raleigh Rescue Mission's Open Door Chapel at $1 per year rent.

Next, the committee decided to find a private non-profit community-based organization that would be willing to adopt and support the free clinic as an ongoing project. The Urban Ministry was the best possible choice because of its commitment to care for the poor; its growing support from the ecumenical community, individuals, and local governments; and its great sources of volunteers. In 1985 the committee turned over the administrative reins of the Open Door Clinic to the Urban Ministry Center.

From the Open Door Medical Clinic, 711-A North Person St., P.O. Box 11302, Raleigh 27604.

The committee now functions as the clinic's advisory council, providing technical assistance. Dr. Don Lucey, who chaired the planning committee, now serves as the clinic's medical director without pay. The committee worked to make the medical and the general communities aware of the free clinic concept, recruited volunteers to staff the clinic, and solicited contributions of money, medications and equipment. The response has continued to be very generous and supportive.

Two years ago the Urban Ministry Center hired Dr. Sheila Parker as the paid clinic director, who is responsible for all administrative aspects of the clinic. Dr. Parker coordinates the activities of the volunteer staff, who now number 30 physicians, 53 nurses, 11 laboratory technicians, 18 pharmacists, 25 dentists, and 27 other volunteers who perform various administrative tasks. These volunteers rotate their service in the clinic once every one or two months.

The Open Door Medical Clinic opened for service October 15, 1985. Social service agencies and churches were informed of the opening and encouraged to refer clients meeting the criteria for free health care. The dental services were added in December 1986. The clinic offers a pleasant and informal setting for both the clients and the volunteers. It is open twice weekly from 5:30 p.m. to 9:30 p.m., Tuesday and Thursday. These clinic hours are important, because it makes the clinic's services available to those who must work during the day. The clinic staff on a given evening consists of two physicians, one dentist, three nurses, one lab technician, one pharmacist, and three administrative workers. On Tuesday evenings, approximately 30 patients receive medical or dental care. Thursday evenings are reserved for women's health care other than prenatal care.

In the interest of providing quality care for the patient, several medical specialists have volunteered to provide free care in their offices for clinic patients needing specialty care. The patient whose health needs cannot be met in the clinic is referred to one of these specialists or to the Outpatient Clinics of the Wake Medical Center.

The clinic's laboratory and pharmacy are stocked by contributions from area physicians, pharmaceutical companies,

and medical supply companies. When patients are in need of medications that are not available in the clinic's pharmacy, the Urban Ministry Center has special funds for their purchase.

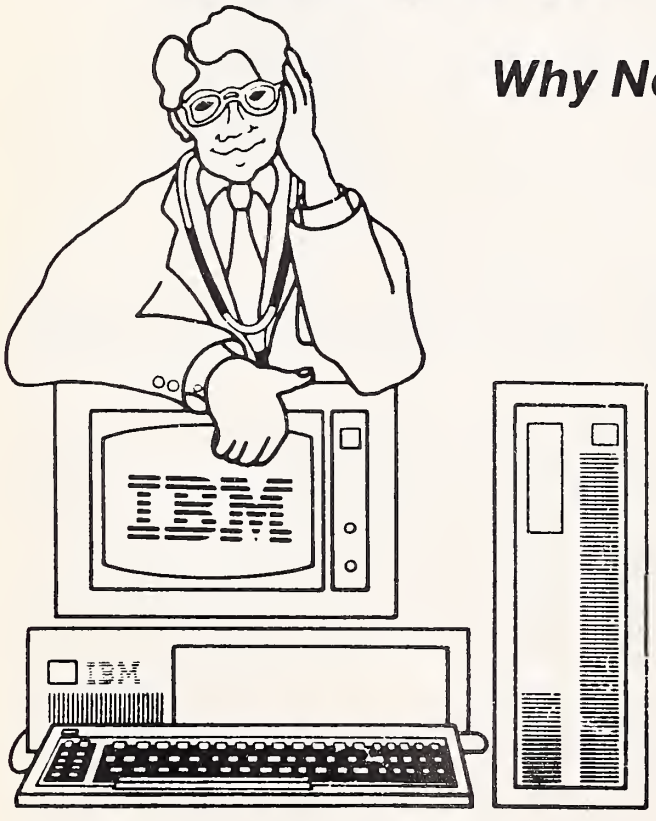
Individuals requesting care at the Open Door Medical Clinic are screened for financial eligibility based on income guidelines and the lack of medical insurance coverage. If the client is eligible, the nursing staff assesses the patient's needs and records the medical history. The patient is then seen by one of the physicians on duty, for diagnosis and treatment. A laboratory technician is available to perform routine tests. A local hospital has agreed to analyze any tests that cannot be performed at the clinic without charge to the clinic or the patient. The physicians and dentists consult with the pharmacists about available medications to meet the client's needs. Patients are then instructed about appropriate care, scheduled for follow-up care, or referred to the appropriate health care professional or facility.

It is important to note that a local county medical organization probably would not be able to operate this type of free clinic because of the need for administrative staff, volunteer resources, and the organizational network that reaches throughout the community. The religious community in any town has the ingredients for this type of effort. The local medical society would make the greatest impact by encouraging its physicians to volunteer their services and by prompting donations of pharmaceutical supplies and equipment. The local medical society might also develop a system for receiving medications and medical supplies from area physicians' offices and delivering these to the clinic.

The Indigent Health Task Force of the North Carolina Medical Society has attempted to review various approaches to improving access to quality health care for all citizens. One of many recommendations is the expansion of Medicaid, the current status of which seriously limits the numbers of poor individuals who are eligible for assistance.

The Open Door Medical Clinic is a compelling illustration of what one community can do to meet the needs of the medically indigent. It demonstrates how various existing groups, concerned individuals, and facilities can work together to provide free medical and dental care. ■

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Performance-Based Credentialing

What Does This New Buzzword Really Mean?

Richard E. Thompson, M.D., and David R. Thompson

In general, "credential" means "something that gives title to credit or confidence; testimonials showing that a person is entitled to credit or has a right to exercise official power."

However, to doctors working in hospitals, "credentialing" has taken on a very special meaning:

> Hospital credentials = Hospital medical staff membership and/or specific clinical privileges requested by an applicant, recommended through specified medical staff mechanisms, awarded, denied, restricted/reduced, updated/revised and/or revoked by the hospital Board, and renewable every two years.

Regardless of any other "credentials" held by a practitioner, only the hospital's Board determines what a practitioner is allowed to do in that hospital. *Everyone* who does *anything* to patients in or under the auspices of the hospital or medical center *must* have a "ticket" from the *Board*.

This state of affairs has been much misunderstood. There are still physicians who feel that hospital membership and privileges are granted in one of the following ways:

> as a result of discussion and vote at a general medical staff meeting — a definite "no-no" in today's antitrust and conspiracy-conscious era;
>
> by award of the Credentials Committee of the medical staff. No. The Credentials Committee recommends to the Medical Executive Committee which recommends to the Board;
>
> by award of the clinical department chairman. No. The clinical department chairman's recommendation to the Credentials Committee as part of preliminary work in processing the application is critical, but clinical departments do not grant membership and privileges.

This is not a new concept. In the statement which really created "the medical staff organization" in 1917 (one-page standard for hospitals of the American College of Surgeons), it is established that medical staff rules and regulations must be subject to Board approval.

Therefore, the real question is not "Does the medical staff grant membership and privileges or does the Board?" That question was answered long ago. It is the Board. The real question is "Who is the Board and how is it acting?" One of the major challenges of the next few years is to solve the inherent dilemma of needing true peer recommendations and judgments on credentials qualifications, yet avoiding abuse by true peers who are in competition with the applicant. The solution is simple to describe, but not easy to implement: objective hospital-conscious, patient-conscious, and community-conscious physicians participating in good faith as hospital Board members.

For now, "credentials" may be the "war department" of your hospital/medical staff relationship. This is because hospital credentialing represents a control over and above controls in other settings, such as a physician's office practice. This control is often resented by physicians and is often viewed with suspicion by physicians and others who are subject to hospital "credentialing."

The Patient-Protective Role of "Credentialing"

It must be remembered that "credentialing" was conceived as and continues to be a patient-protective activity, not a means of economic control. One must not deviate from this patient-protective function by making "credentials" decisions about applicants that can even be perceived as "economically contaminated": a true peer in a position of authority, using the credentials mechanism to take advantage of a competitor.

Antitrust and Credentialing

Readers should become thoroughly familiar with the provisions of the Health Care Quality Improvement Act of 1986. In brief (check this interpretation with an attorney):

The Act requires a national data base containing in-

From Thompson, Mohr & Associates, Inc., 312 Florida Ave., N. #344, Tarpon Springs, FL 33589. Dr. Thompson spoke at the North Carolina Hospital Association seminar and a number of the persons present requested that the NCMJ publish his paper.

formation about physicians who have lost clinical privileges or state licenses to practice. Once this information base is available, hospitals will be expected to refer to it prior to awarding membership and privileges to physician applicants.

The most immediate provision of the law is some relief from antitrust complaints by an aggrieved denied applicant. Primarily related to credentialing actions based on peer review, the Act can be summarized as requiring good faith effort, action taken in the interests of patient care and based on confirmed information about practice problems, and compulsive attention to "due process."

The Joint Commission's "Agenda for Change"

Another pressure on medical staff functions, including the function of "credentialing," is from the Joint Commission on Accreditation of Hospitals, whose thick accreditation manual is the great-great-great grandchild of the one-page standard for hospitals of the American College of Surgeons. Effective performance-based credentialing is now a major requirement of the Joint Commission on Accreditation of Hospitals medical staff standard.

Public Watchdog Groups

Many newspapers, news magazines and TV news broadcasts have recently examined the public's dissatisfaction with the dependability and quality of services provided by "service industries," including airlines, hotels, hard goods industries such as the automobile industry, and *hospitals and physicians*.

Because of "the order sheet" (the physician "orders" the patient's care), hospital medical staffs will be in the thick of efforts to respond to these public demands for accountability, defined as data-based, objective evidence confirming consistent, effective and careful performance by practitioners in hospitals.

Just Plain Old Patient Care

Pretend your family member is the patient. If you wanted to evaluate and know the current competence (not just the qualifications, as represented in diplomas and certificates) of the physician who just hospitalized your family member, what would you depend on?

At the present time, no credential held by the physician reflects:

- the exact nature of the physician's practice, and
- the physician's current competence

other than the physician's clinical privileges at the hospital, which are assumed to be:

- based, initially, on careful evaluation of qualifications and current competence, and
- reappraised objectively every two years.

The "Credentialing" Process

Hospital "credentialing" has three major parts:

1 Initial granting of medical staff membership

2 Initial granting of clinical privileges

3 Renewal, revision and/or updating of clinical privileges:

- routinely, every two years
- by "corrective adjustments," which may be clinical department-level functions, and/or
- corrective action — Medical Executive Committee and Board function.

Initial Membership

Granting of initial membership on the staff has nothing to do with performance. It is based on general information about training, past experience, current state licensure, Drug Enforcement Agency (DEA) registration, liability insurance coverage, references, an interview, etc.

For a new staff member, assignment to a medical staff category and assignment to a clinical department also have nothing to do with performance. They are based primarily on:

- the individual's clinical specialty
- the individual's anticipated use of this hospital.

Initial Clinical Privileges

This is the first of two applications of "performance-based credentialing."

Once upon a time. Up until twenty years ago, there was no such thing as delineating specific clinical privileges. A physician could pretty much treat whatever came his or her way, no questions asked. Active staff status was something like "tenure." Active staff status somehow implied more clinical privileges than courtesy staff status, even though there was no performance-based logic to that use of "categories."

Delineation of clinical privileges based on board certification. Until recently, clinical privileges were distributed according to board certification. That is, if a practitioner possessed a certain specialty certificate, then he or she was deemed (forever) to be qualified in all aspects of that clinical specialty. Conversely, if an individual did *not* hold a spe-

cialty certificate of a certain kind, then he or she was automatically deemed *un*qualified to treat certain medical conditions and/or perform certain surgical or invasive diagnostic procedures.

Initial credentialing based on performance/training: subdividing the board certified. The new approach — performance-based credentialing — can be best summarized as "pretend you're the patient" credentialing.

Example 1: You have an orthopaedic certificate, but if you wish to do total hip joint replacement, you must provide additional evidence of training and/or performance in this particular procedure.

Example 2: You are a board certified pediatrician. But if you wish to do intensive newborn care, you must provide additional evidence of training and/or performance in this clinical area.

Example 3: You are board certified in the specialty once known as "ENT," now named otolaryngology/head and neck surgery. But, if you are recently trained, you may be qualified for the privilege of thyroidectomy and treating laryngeal cancer. But if your training and experience do not include these conditions and procedures, then you *cannot* argue that you should have this privilege just because another doctor with the same specialty certificate does.

Example 4: You are a family physician. You have always been really interested in reading EKGs. You request this privilege because another family physician in your small hospital has the privilege to read EKGs, so you figure you should have it, too.

Wrong.

The other family physician has had a six-month preceptorship with a cardiologist for the express purpose of being competent in reading EKGs. You have not. You cannot expect to have this clinical privilege just because the hospital (defined in credentialing as medical staff department/Credentials Committee/Medical Executive Committee *plus*-Board *plus* hospital executive/management staff) gave that privilege to the other family physician.

Consistency in credentialing does *not* mean "we let this doctor do it, so I guess we have to let that doctor do it." Consistency in credentialing means that we have a clear rule, and we followed it. The other doctor met it and you did not. that is why that doctor has the privilege and you do not.

For an example of how to establish such a performance-based rule for granting initial clinical privileges, see figure 1.

Procedure/Condition _____

Statement prepared by: _____ DEPARTMENT _____ NAME

_____ DEPARTMENT _____ NAME

_____ DEPARTMENT _____ NAME

Statement approved by: _____ MEDICAL EXECUTIVE COMMITTEE, CHIEF OF STAFF _____ GOVERNING BODY, CHAIRMAN

The following evidence of qualifications and performance are or are not acceptable, as indicated.

1. Completed an approved residency in the broad specialty(ies) within which the procedure or case is ordinarily expected to be performed. ☐ YES ☐ NO

   Specifications: _____ ☐ YES ☐ NO

   _____

   But more than _____ years ago. ☐ INSUFFICIENT ALONE

OR 2. Preceptorship (applicant was primary surgeon or attending, under supervision) ☐ YES ☐ NO

   Specific qualifications of the preceptor _____ ☐ YES ☐ NO

   _____

   Only with written confirmation of competence from the preceptor. ☐ YES ☐ NO

OR 3. Attended a CME program and obtained a certificate of attendance. ☐ YES ☐ NO

OR 4. Confirmation, in writing of _____ procedures/medical cases within the past _____ months/years. ☐ YES ☐ NO

AND Letter indicating satisfactory performance. ☐ YES ☐ NO

OR 5. Letter from chairman of clinical department of university residency program stating that the applicant is qualified in the clinical area(s) requested. ☐ YES ☐ NO

   But if more than _____ years ago. ☐ INSUFFICIENT ALONE

OR 6. Other _____

   _____

Figure 1. "Required Level of Qualifications" Statement

Renewal of Clinical Privileges: Information-Based Reappointment

The youngest and, so far, least developed area of "credentialing" is "information-based reappointment." Information-based reappointment now has three parts:

1 Updating of general information. Examples: Reconfirmation of state license to practice, DEA registration, continued malpractice liability coverage, meeting requirements for attendance at medical staff meetings (if active staff), etc.

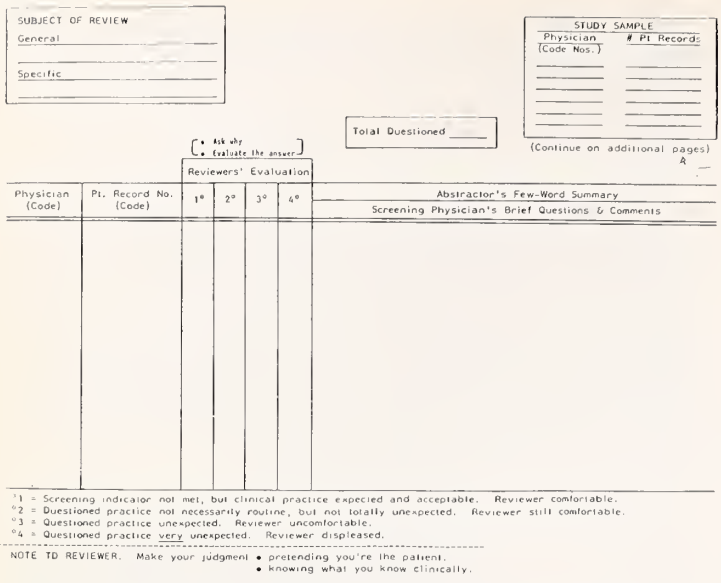
2 "Volume of hospital practice." Simple figures indicating numbers of admissions, numbers of procedures performed, numbers of cases treated, numbers of consultations asked for/provided, etc.

3 Performance summary. The volume of hospital practice plus performance summary data together might be referred to by some as a "practice profile." This can be a simple, one-page summary on clinical performance, based on ongoing review activities (see figures 2 and 3, next page).

Five Keys to Effective Credentialing*

1 *Emphasize joint efforts.* The medical staff, board and administration must work together to respond to today's critical "credentialing" dilemmas.

*Reprinted with permission from *Answers to 20 New Tough Questions About Medical Staff Bylaws, Credentials and Peer Review* by Richard E. Thompson, M.D., and Eric W. Springer. Thompson, Mohr & Associates, Inc., 1987.



SUBJECT OF REVIEW
General
Specific

STUDY SAMPLE
Physician (Code Nos.) | # Pt. Records

Total Questioned

(Continue on additional pages)

[* Ask why
* Evaluate the answer]

Reviewers' Evaluation

Physician (Code)	Pt. Record No. (Code)	1*	2*	3*	4*	Abstractor's Few-Word Summary / Screening Physician's Brief Questions & Comments

*1 = Screening indicator not met, but clinical practice expected and acceptable. Reviewer comfortable.
*2 = Questioned practice not necessarily routine, but not totally unexpected. Reviewer still comfortable.
*3 = Questioned practice unexpected. Reviewer uncomfortable.
*4 = Questioned practice very unexpected. Reviewer displeased.

NOTE TO REVIEWER. Make your judgment • pretending you're the patient.
• knowing what you know clinically.

Figure 2. Clinical Review Summary of Questioned Cases Only

Part III

Name_____

Specialty_____Department_____

Date appointed to staff_____Current staff category_____

QUALITY REVIEW	Number or %			
Summary of Clinical Review	1*	2*	3*	4*
Surgical Case Review				
Blood Use				
Drug/Antibiotic Use				
Medical Records Completion & Legibility				
Mortality				
Complications				
DRG/Financial/PRO Information				
Incident Reports				
Peer Complaints				
Nursing Complaints				
Patient Complaints				

Example of Part III: Dr. Blade is a general surgeon. His reappointment form might indicate:

FEEDBACK/REAPPOINTMENT

Part III

Name Harold G. Blade, M.D.

Specialty General Surgery Department Surgery

Date appointed to staff 1971 Current staff category Active

QUALITY REVIEW	Number or %			
Summary of Clinical Review	1*	2*	3*	4*
Surgical Case Review	71%	29%	--	--
Blood Use	63%	32%	5%	--
Drug/Antibiotic Use	59%	41%	--	--

* See figure 2.

Figure 3. Feedback Reappointment

2 *Be objective.* Collect and use as much information as possible.

3 *Be consistent.* If it's the rule for one applicant, then it's the rule for all applicants.

4 *Separate "membership" from "privileges."* Medical staff appointment/membership and category assignment (active, courtesy, etc.) relate only to placement on the staff and membership prerogatives such as voting and holding office. Delineation of clinical privileges *separately* provides a specific definition of the exact nature of each staff member's hospital practice.

5 *Follow written rules.* Medical staff bylaws must be updated, explained, followed and supplemented.

Where Is Credentialing Headed?

Believe it or not, the next big issue in credentialing will probably be credentialing of nurses. Example: Two RNs work in the nursery, but one works in the normal newborn nursery, and the other works in the pediatric intensive care unit. What "credentialing" tests should be demanded of the nurse working in the area requiring more nursing skills?

With respect to physician credentialing, the biggest need is to resolve the dilemma of

- the necessity of true peer judgment of applicants' qualifications, but
- the temptation by true peer competitors to abuse the system by "economically contaminating" their evaluation of an applicant's qualifications.

If that dilemma cannot be resolved, then obviously credentialing is headed *away* from the present "hospital-specific" system. Physicians would then not be licensed by the state to practice "medicine and surgery in all its branches," but by law, physicians would become limited license practitioners! Hopefully, objectivity and consistency in performance-based "credentialing" will prevent such an unfortunate occurrence. ■

About the authors: Richard E. Thompson, M.D., is president of Thompson, Mohr & Associates, Inc. His most recent books are *How To Implement an Integrated System of QA, UR, RM, Peer Review & Credentials*, co-authored with Joan B. Thompson, and *Answers to 20 New Tough Questions About Medical Staff Bylaws, "Credentials" And "Peer Review"*, co-authored with Eric W. Springer, Esq. David R. Thompson is president of SENSS Publications, Inc., a subsidiary of Thompson, Mohr & Associates, Inc., and Managing Editor of two monthly letters, *Medical Staff Leader Guide* and *Second Opinions on Healthcare Issues*. His most recent book is *Theory I: End Your One-Minute Search for Excellence*, co-authored with Richard E. Thompson, M.D.

Using the Objective Structured Clinical Examination at the University of North Carolina Medical School

Axalla J. Hoole, M.D., Vicki Kowlowitz, Ph.D, William C. McGaghie, Ph.D., Philip D. Sloane, M.D., and Romulo E. Colindres, M.D.

Much evidence supports the claim that the assessment of medical students' clinical skills is often done poorly or not at all. In 1962, Seegal and Wertheim concluded from conversations with house staff and faculty that "not one of these individuals had ever been overseen by a senior instructor while performing a complete physical examination prior to receiving his medical degree."[1] They stressed the need to supervise student performance during clinical clerkships and reported a modest program at Columbia University in which each clinical clerk was observed performing a complete physical examination during the first three weeks of a clerkship. In 1976, Engel accused the American medical education system of failing to prepare physicians in the fundamental skills of clinical observation and clinical reasoning. After informal inquiries among medical students at more than fifty North American medical schools, Engel found that few students reported having been observed during an interview and physical examination more than one or two times.[2]

In 1984, the Association of American Medical Colleges emphasized that inadequate supervision of students can evolve on clerkships. It recommended that clearly stated goals and consistent supervision by experienced faculty and residents be provided on each clerkship.[3] Professional associations, including the American Board of Internal Medicine (ABIM), also have called for more attention to evaluation in undergraduate and postgraduate medical education.[4]

Unfortunately, current methods of evaluating clinical skills, both of medical students and of house officers, focus primarily on students' recall of information rather than on instructors' observations of performance. The only direct evaluation of skills in physical diagnosis or ward clerkships usually comes from preceptors who submit an impression derived from piecemeal observations made at the bedside. When classes were small and there were a number of preceptors committed to clinical teaching, these evaluations may have been adequate. Indeed, many preceptors felt they knew the students well. However, larger classes and the proliferation of duties have led to precepting by faculty who have little time for clinical teaching and, ultimately, evaluation. The result has been that courses in physical assessment are often followed by examinations composed of multiple-choice questions. Such tests cannot evaluate clinical abilities or attitudes — only the ability to recall facts.

A number of solutions have been proposed and used to strengthen the evaluation of medical students' clinical skills. They include increased attention to student performance of physical examinations at the bedside; individual, observed complete physical examinations; employing patients as instructors and evaluators;[5] patient-management-problems (PMPs) to assess clinical reasoning and judgment;[6] and oral examinations.[7] However, each of these proposed solutions has limitations due to excessive time required of faculty, uncertain fidelity to the realities of clinical medicine, or an acknowledged lack of reliability and validity. Also, most of these methods do not include an evaluation of the basic techniques of interviewing and physical examination.

The UNC Evaluation

The clinical skills evaluation now in use at the University of North Carolina (UNC) School of Medicine is the Objec-

From the Departments of Medicine and Family Medicine, University of North Carolina School of Medicine, Chapel Hill 27514.
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tive Structured Clinical Examination (OSCE), developed by Scottish physician Ronald Harden.[8] It is used in many commonwealth countries, and typically its chief purpose is evaluation.

The OSCE is similar in design to practical examinations in gross anatomy. Students rotate through a timed series of stations that are focused on physical examination, history taking, and problem solving. At each station students complete a single task, such as description of a set of skin lesions, examination of the ocular fundus, obtaining the history of the present illness, or examination of the abdomen. The skill to be tested is decided in advance and a checklist is prepared which lists the specific components of a well performed examination. Observers at each station evaluate many students doing a single clinical task on the same patient and record results on the standardized checklist. Evaluators may be faculty or trained observers; stations are usually three to five minutes long.

This multiple-stations approach is purported to yield a comprehensive examination of clinical abilities. The larger the number of stations, the greater the validity of the examination. The difficulty of each station can be made appropriate to the level of training of the students being examined.

The OSCEs at the UNC School of Medicine differ from the typical OSCE examination in two ways, which emphasize their orientation toward education rather than evaluation only: faculty and house staff comprise most of the evaluators, with few trained nonphysicians used; and one minute has been added to each station specifically to provide an opportunity for discussion.

At UNC, OSCEs are being given at two academic levels — at the completion of the second-year physical diagnosis course and after each third-year medicine clerkship.

The first OSCE is a final evaluation only for techniques of physical examinations such as breast, heart, or eye examinations. In addition to observing performance, observers may ask students to describe their findings. Clinical stations, representing a majority of the stations, are mixed with didactic stations in which students are asked questions about photographs, slides, and videotapes (table 1). The students are not expected to make diagnoses or to show proficiency in problem solving.

Table 1

OSCE Stations for UNC Second-Year Student Evaluation, 1986

Stations	*Skills Assessed*	*Method of Evaluation*
Knee examination	Inspection, description of findings, approach to patient	Faculty observation using checklist (FC)
Ear examination	Recognition of physical findings	Identifying anatomic structures
Heart sounds (Simulated)	Listening, discrimination of heart sounds	Students record findings
Nasal examination	Inspection, approach to patient, use of speculum	FC & student identification of anatomical structures on drawing
Abdominal examination	Inspection, auscultation, palpation, percussion, approach to patient	FC
Gross visual field	Examine patient's visual field	FC
Videotape of gait disturbance	Identify abnormalities, identify neuroanatomic locations	Students record findings
Breast examination: live patient	Inspection, palpation, approach to patient	FC
Examination of thyroid gland	Inspection, palpation, approach to patient	FC
Examination of ocular fundus	Examination technique, use of ophthalmoscope, approach to patient	FC
Breast examination: simulated	Inspection, examination technique, identify nodule	FC Students record findings
Dermatology	Ability to describe lesions	Students record findings
Deep tendon reflexes	Examination technique, approach to patient	FC
Pulmonary examination	Palpation, percussion, auscultation, approach to patient	FC
General appearance	Observe videotape of short interview	Students record findings
Heart examination	Inspection, palpation, auscultation, use of stethoscope	FC
Mental status	History taking, recognition of abnormal mental status	FC, using simulated patient
Interview (2 stations 10 minutes)	Interviewing technique	1) Faculty observes interview 2) Discusses interview

Table 2
OSCE Stations for UNC Third-Year Student Evaluation

*Stations**	*Skills Assessed*	*Method of Evaluation*
Hepatosplenomegaly	Auscultation, palpation, percussion, differential diagnosis	Faculty observation using checklist (FC) short answer essay questions
Urinary tract infection	History taking, approach to patient, differential diagnosis	FC, short answer essay questions
Joint pain: arthritis	Inspection of hands, palpation, differential diagnosis	FC, short answer essay questions
Peripheral neuropathy	Inspection of feet and lower legs, palpation for pulses, neurological exam	FC, short answer essay questions
Thyroid nodule	Inspection of neck, palpation, auscultation	FC, short answer essay questions
Cough and fever	History taking, interpretation of laboratory data, approach to patient, differential diagnosis	FC, short answer essay questions
COPD	Inspection, palpation, percussion, auscultation	FC, short answer essay questions
Aortic valve	Inspection, auscultation, approach to patient, differential diagnosis	FC, short answer essay questions
Chest pain	Interview technique, approach to patient, differential diagnosis	FC, short answer essay questions
Smoking cessation	Patient counseling about ways to stop smoking	FC

*Each topic has two stations, one for patient evaluation and one for questions about the patient.

The second OSCE, administered after completion of each third-year clerkship, is more advanced than the second-year test and requires diagnostic maneuvers and clinical decisions. Stations are presented in pairs with each pair directed toward a real clinical problem. At the first station, students either examine a patient or take a history. At the second station they are asked to answer written questions about the case, discuss the problem with the observer or comment on additional x-ray or laboratory data that are provided for discussion (table 2).

The second-year examination, composed of 20 five-minute stations, lasts about two hours. In order to test 160 students in one day, we run two examinations simultaneously and start a new set of examinations every two hours at 8:30, 10:30, 1:30, and 3:30. Because weekends are the only time that space is available, we have to conduct this examination on Saturday. Preceptors usually participate for two examinations; patients, who are usually first- or third-year medical students or nursing students, are paid by the hour and work for one to four examinations. To increase the educational benefit from being a paid patient, students are assigned to a different station for each test. Patients who have sensitive areas examined can tolerate only one two-hour shift before moving to another station. The third-year examination, because it only involves forty students, can be done during the week and is a less herculean task. Because one of the goals of this examination is the identification of physical findings, these patients must be recruited from our outpatients.

The second-year OSCE was developed at UNC and administered to part of the class in 1985 and to the entire class of 160 students in 1986. In contrast, the third-year clerkship OSCE, a one-year trial, is a product of a collaborative student evaluation project involving three other medical schools: University of Texas Medical Branch at Galveston, Southern Illinois University, and the University of Washington, Seattle. Financed by the National Fund for Medical Education, this project aims to see if an identical clinical skills examination can be successfully administered at four geographically and functionally different medical schools.

Results

Response to a student questionnaire distributed after each examination indicated that the exercise was received enthusiastically by the students. The following assessment of the second-year OSCE is based upon the 122 returned questionnaires, representing 90% of those distributed (table 3, next page). Ninety-one percent of the students rated the OSCE as a valuable experience; 92% of the students considered the feedback they received at the stations valuable; and 86% thought that the OSCE was a worthwhile method for assessing clinical performance. Without exception, the students recommended that the OSCE be run again next year.

A similar questionnaire was distributed to the third-year medical students. The results are based on 92% of the 77 questionnaires distributed for two clerkship rotations (table 4, next page). One hundred percent of the students felt that

Table 3

Results From a Student Questionnaire on the Second-Year OSCE, 1986

	Not Valuable	*Somewhat Valuable*	*Valuable*	*Very Valuable*
1 Educational value:	0%	2%	25%	66%
2 Value of feedback:	0%	7%	26%	66%
3 Method of clinical evaluation:	0%	14%	39%	47%
4 Should the OSCE be administered again?	NO — 0% YES — 100%			

Table 4

Results From the Student Questionnaire on the Third-Year OSCE, 1986

	Strongly Disagree	*Disagree*	*Agree*	*Strongly Agree*
1 I feel this OSCE was a valuable learning experience:	0%	0%	31%	69%
2 Overall, the feedback I received was valuable:	0%	0%	31%	69%
3 I feel the OSCE is a worthwhile method for assessing clinical competence:	3%	8%	56%	32%
4 I recommend the OSCE be run again next year in the medicine clerkship:	1%	3%	31%	65%

the OSCE was a valuable learning experience and that the feedback received at the stations was valuable; 88% of the students thought the OSCE a worthwhile method for assessing clinical competence; and 96% recommended that the OSCE be run again next year in the medicine clerkship.

At exit interviews, students reported that the OSCE provided the longest discussions of physical findings and clinical technique they had ever had with attending physicians. Faculty reported an increased awareness of students' clinical abilities and expressed enthusiasm for the opportunity to observe and teach techniques of the physical examination. Most participating faculty acknowledged the need for more supervisory contact with medical students.

Discussion

Many of the complaints made about other examinations of clinical skills are answered by the OSCE. Although there is no substitute for bedside observation, the OSCE provides some of the realities of clinical medicine and also obtains a higher degree of standardization by having all students examine the same patient while being observed by the same scorer using preset standards. In this way, especially when two scorers are periodically used, observer bias and variability are decreased and reliability is increased. Also, the test may be made less labor-intensive without losing its orientation toward clinical skills by using students as "patients," especially when specific physical findings are not necessary or the "patient" can be trained, and by using videotapes, photographs, slides, or x-rays, about which questions may be asked.

Our experience unfortunately has shown that despite attempts at standardization, evaluators vary greatly. Videotapes of the examination showed that some evaluators began to prompt as soon as the students had the slightest hesitation, and others waited silently or even ominously until the students had absolutely finished. Also, evaluators do not use the checklist in a consistent manner.

Moreover, there is no universal technique for physical examination. In fact, in the physical diagnosis course we stress that good physicians may differ in the way they approach a simple screening examination. For this test we are trying to reach consensus on a standard technique and have all observers, faculty and residents, review and agree upon the content of the checklist used in grading.

The experience of implementing the OSCE at UNC has been unequivocally positive. What started as a tool for evaluation is emerging as a means of education. Its role as an educational endeavor is more than we ever envisioned. This is evident from our most frequently encountered administrative problem: faculty are reluctant to allow students to leave their station until they "get it right!" Also, students routinely volunteer that interaction with faculty is the most valuable feature of the OSCE.

As long as some time at each station is spent discussing performance, there may be a conflict between evaluation and teaching. While this approach strays from the original intent of the examination to be solely evaluative,[8] we are reluctant to abandon it until we can determine if the evaluative function has been undermined.

Results of the OSCEs have also begun to affect the Medical School curriculum. Lecturers in the physical diagnosis course have adjusted presentations and demonstrations to correct systematic deficiencies and in several cases have

developed additional small group practices. In addition, Medical School curriculum committees are now working on a plan that would assign each of the five basic clerkships responsibility for certifying that students have acquired certain basic clinical skills.

The OSCE also underscores the point that an institution's evaluative practices are its most direct expression of educational intent. Examinations send a message to students and faculty about the information and skills learners are expected to acquire.[9] Failure to use a deliberate approach such as the OSCE often results in a subjective, ritualistic approach to evaluation administered by faculty who are detached or remote.[10] Students may try to bluff their way through rotations under a verbal "cloak of competence" rather than acquiring and demonstrating key clinical skills.[11] Changing the method of student evaluation is one of the best ways to affect teaching practices, and in the end the side effects of the OSCE may be much more important than its original evaluative intent.

Producing an OSCE, a very labor-intensive examination, requires commitment from a large number of faculty. Several people spend many hours a week for months organizing the approximately 50 preceptors, 40 patients, and eight clerical staff necessary on the day of the examination. Our efforts have gone well because we have an interested faculty who each year have requested that the test be repeated. Our intent is to make the test a reliable evaluative/teaching tool that can be given annually without exhausting the good will of the faculty. ■

References

1 Seegal D, Wertheim AR. On the failure to supervise students' performance of complete physical examinations. JAMA1962;180:132-3.

2 Engel GL. Are medical schools neglecting clinical skills? JAMA 1976;236:861-3.

3 Muller S. (Chairman). Physicians for the Twenty-First Century. Report of the Project Panel on General Professional Education of the Physician and College Preparation for Medicine. J Med Educ 1984;59:Part 2.

4 American Board of Internal Medicine. Evaluation of clinical competence. Philadelphia: American Board of Internal Medicine, 1986.

5 Stillman PL, Burpeau-DiGregorio MY, Nicholson GI, et al. Six years of experience using patient instructors to teach interviewing skills. J Med Educ 1983;58:941-6.

6 McGuire CH, Solomon LM, Bashook PE. Construction and use of written simulations. New York: The Psychological Corp., 1976.

7 American Board of Pediatrics. Booklet of Information. Chapel Hill, NC: American board of Pediatrics, 1986.

8 Harden RM, Stevenson M, Downie WW, Wilson GM. Assessment of clinical competence using Objective Structured Clinical Examination. Br Med J 1975;1:447-51.

9 Newble DI, Jaegar K. The effect of assessments and examinations on the learning of medical students. Med Educ 1983;17:165-71.

10 Hass J, Shaffir W. Ritual evaluation of competence. Work and Occup 1982;9:131-54.

11 Smith AC, McGaghie WC. Student evaluation in clinical education: a field study at one medical school. Ann Conf Res Med Educ 1984;23:217-22.

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Living Ghosts from Our Past

The 1987 Spicer-Breckenridge Lecture

Paul W. Brand, M.D.

The Spicer-Breckenridge Lecture is given annually in memory of two members of the medical school class of 1939 who lost their lives in World War II, Emmet Spicer (1916-1945) and Arnold Breckenridge (1915-1945). The lecture is given during the annual Alumni Meeting of the School of Medicine of the University of North Carolina at Chapel Hill, the only occasion during the year on which students, faculty, and alumni gather.

I am grateful for the honor you do me, that you have chosen me to be the one to remind all of you at Chapel Hill of your own history, and to point you forward along paths that have been illuminated by the lives and by the sacrifice of these two men who have helped to make our own future more secure and more free as well as to have more meaning.

I want to refer to special features of the heritage that Emmet Spicer and Arnold Breckenridge individually have left to all of us, but first we need to remind ourselves that, to a remarkable extent, we are each a composite of men and women of the past. If we take the trouble to study our own patterns of thought and action, we shall come to recognize that we have gotten more from our parents than the sequences of DNA in our genetic inheritance. We have gotten more from our teachers than the facts they have taught. Even our friends and peers, who never set out to teach us anything, may be living on in our attitudes and opinions long after they have left us, separated by distance or death.

I have recently been trying to trace the source of my own disciplines in operative surgery. I do not mean the type of operations that I use, or the reason for using one muscle to transfer, rather than another, for a partially paralyzed hand. I refer to the basic disciplines that I do not think about any more, because they have become part of my reflex responses to all that happens in any operation. I looked at the methods I use to arrest haemorrhage during surgery. Here I am a little slow. I simply cannot bring myself to grab quickly at a bleeding point with a haemostat, knowing that in my haste I shall probably clamp and crush more living tissue than I need, leaving dead cells to be hauled away by macrophages before the wound can be fully healed and return to the peace of homeostasis. After a careful exercise of memory I have tracked this back to the second of my teachers during my surgical residency, Dr. Thomas Higgins. I used to be fascinated by his ability to pick up the cut end of a tiny blood vessel without any other tissue, and I was very much aware of his critical eye when I was operating, and his occasional snort when I was more than usually clumsy. That was forty years ago, and he is probably no longer alive, but I tell you that he still looks over my shoulder, and sometimes he snorts at me today, though not as often as he used to, because I have become pretty good now as a result of his continuing influence.

Then there is my habit of using the broad soft pad of my thumb to arrest sudden severe bleeding while I wait to plan the next move. That comes from Sir Launcelot Barrington-Ward, who taught me at the Childrens' Hospital in London. I still see him across the operating table, completely at peace while his great thumb rested on a tear of the Vena Cava, and he winked at me and asked "Do we clamp it or shall we sew it up?" Sir Launcelot was surgeon to the King of

Senior consultant of the Hansen's Disease Center, United States Public Health Service, and Clinical Professor of Orthopaedics and Surgery, Louisiana State University

England, and famous in every way, but he never tired of repeating his simple philosophy to every young trainee. "You make mistakes when you panic," he would say "and fast bleeding breeds panic, so don't rush in with instruments. Use your thumb until you know what you want to do, then do it deliberately." He still lives in my own surgical philosophy and technique, and his Ghost still winks at me sometimes when I use my thumb, and his comforting presence still brings a sense of peace where there might have been stress. Part of him will go on living in those whom I have taught, but to them his image may now have blended into mine.

More than half the scientific facts that I learned as a student, and ninety percent of the drugs whose dosage and actions I memorized, have been discarded and lie in the trash cans of history. The treasures that have survived, together with the ghosts of those who taught me, are the disciplines and attitudes by which I still guide my life. I had such a good teacher of the History of Medicine that pioneers like Semmelweiss have come back to life. He it was who first identified the role of the surgeon's hands in the spread of infection from patient to patient. It was he who insisted that all the staff should scrub with soap and water. He was thrown out of his hospital appointment by the surgeons who felt insulted by his implied suggestion that they were dirty. Without a job, and laughed at by his peers, he tried to convince the public by printing statements about infection, and handing sheets of paper out to passers-by on the streets. They too laughed at him until his mind became unhinged and he died an alcoholic and pauper. Joseph Lister read his work and went on to fame and fortune by demonstrating the truth of what Semmelweiss had proved. When I am tempted to hurry through a perfunctory scrub so that I can get on to operate, it is Semmelweiss who stands behind me and says "It cost me my job and my life to establish the truth behind this discipline." So I go on scrubbing until I have completed ten full minutes.

I live beside the Mississippi River and sometimes walk on the levee in the evening. I often swat a mosquito that has had the temerity to settle on my arm for a meal. When I do, I sometimes think to turn to another Ghost beside me and say "Thank you James." This is because there are many gravestones in this district inscribed to the memory of young men and women who died of Yellow Fever. They too had been bitten by mosquitoes. A walk beside the Mississippi was a perilous enterprise in those days. But Dr. James Carroll, a young army surgeon, volunteered to be part of an experiment to test the theory that Yellow Fever was transmitted by the Aedes egyptii mosquito. He moved to an area where there was no Yellow Fever, while others captured mosquitoes which had fed on victims of the disease. James Carroll watched as a wide mouth jar was inverted over his arm, and the mosquitoes drove their proboscises into him. There were other volunteers, and they got Yellow Fever too, but it was Dr. James Carroll who died of the infection. His sacrifice opened up new knowledge and started the process which now makes it safe for me to stroll beside the Mississippi in the dusk. Thank you James.

During surgical ward rounds in India I once caught a strange expression on the face of one of my young trainees in surgery. He was examining the abdomen of a patient while continuing to ask her some questions. These were probing a rather embarrassing area relating to the possibility that her pain might have origin in a venereal infection. He had screwed his face into an asymmetrical combination of a sympathetic smile and an expression of serious concern. This involved raising one eyebrow while lowering the other, while his head was tilted sideways and thrust forward a little. The thing that caught my attention was that he had the exact expression that my old teacher, Professor Pilcher, used to use on just such occasions. I could not avoid commenting on this extraordinary coincidence by which this young Indian surgeon had imitated the facial expression of an Englishman he had never seen. Then another young surgeon at the bedside laughingly told me, "But sir, his face is exactly your face!" I was taken aback and began to ask myself what I was teaching these trainees. Was it surgery or was it new ways to smile?

After more reflection I became rather pleased. Professor Pilcher had been rather reserved and shy in his manner, but he took enormous care to make sure that his patients understood his basic commitment to them, and sympathy with them. He avoided saying anything that might be misunderstood and increase their fear or break down their trust. He would never allow any of us to laugh at the bedside at any little hidden joke we might have amongst ourselves, because the patient might think that we were laughing at him. The rather contorted smile that I had observed on the face of my trainee was really Dr. Pilcher's expression of love and concern mingled with a necessary professional restraint. I began observing some other faces and mannerisms at the bedside. Seeing a similar sort of attitude and half smile in more than one of my students, I noted that it occurred when they were anxious to win the trust and affection of their patients. There was no attempt at conscious control of their facial muscles, but it must have been an attempt to do as they had seen me do, even as I must have cultivated, without conscious volition, the attitudes of my teacher.

So Professor Pilcher was living on in India, where he had never been in the flesh. Even today his smile, on other peoples' faces, is perhaps breaking down barriers between patients and doctors in hospitals from Madras to New Delhi. If that is true I am thankful that I can not only continue to benefit by what my mentors have taught me, but can pass on to others the living attitudes and imperatives that have made them great. I can share my living ghosts and blend their spirits with my own so that the quality of all our lives may be enhanced. It is important that we choose our models from amongst the greatest and finest that we know, for they will live with us longer than we may think.

Amongst the ghosts that remain with me is that of a patient in India. He was one of our early leprosy patients, in the

days when I was just beginning to operate to correct their deformed hands. I was away from home for a few days, and the young man came to my house, asking for me. His hands were bandaged, and his feet wrapped in rags through which the wetness of discharge from his ulcers was very apparent. My wife Margaret told him to come back when I returned, and to see me in the hospital clinic. His face looked so sad as he turned away in despair that Margaret felt impelled to ask him if he had somewhere to stay. He shook his head, saying he would manage somehow. She knew no hotel would accept him, and it was obvious he had no money. He had walked far on his wounded feet to come to us. With a sure impulse Margaret said, "You are welcome to stay with us, if you like. We can make up a bed on this veranda, and you can share our food until my husband comes home." He soon had clean dressings on his feet, and the children were told to be nice to him, but not to come near enough to catch his infection. In those days we knew only a little about the disease.

When I came home, the patient, Sadagopan, stood up with downcast eyes while my wife welcomed me. She answered my unspoken question with the words, "You see, he had nowhere to go." I said, "but . . . the children . . ." Yes, she had taken what care she could; but we had told people, had we not, that leprosy was not highly infectious? Besides, *he had nowhere to go . . .*

That scene has lived with me ever since. It was, in part at least, the stimulus for my collecting money to build a village of mud-and-thatch houses where leprosy patients could live during the time we were finding ways to rehabilitate them. The sad face of that young man, with latent dignity and intelligence, but frustrated by deformity, poverty and stigma has become for me the face of all such displaced persons. The haunting words "he has nowhere to go," and the sweet face of my dear wife to whom it was so clear that this was a personal challenge to us and to our home, have lived and spoken to me all down the years. I do not want that ghost ever to die or fade away. It would be too easy to retreat behind a trite statement, "the government should do something for this kind of case." Who is my neighbor, whom I should love as myself? Sadagopan's story also has a happy ending. On my last visit to India he invited me to his daughter's wedding. He is independent, and has a lovely family. His is a home to which he is proud to invite me. He has somewhere to go.

We may not have much choice over who our parents are, or over who teaches us our medicine. It is not our fault that the news coverage reminds us every day of leaders in the world of finance, of government and even of religion, who have been seduced by greed for money, sex or power. We may be surrounded during our Residency training program by many who are planning their future with a single eye towards financial success. We *do* have a choice, however, and we do have control over the decision of whom we *choose* to accept as our own personal guides and inspiration. I like to review my own ghosts from time to time in case some have sneaked into the group who should not be there, and who need to be exorcised. I appreciate my Accountant, and have just finished working with him over my income tax returns. However, I do not want any financial advisor looking over my shoulder or whispering to me while I am seeing patients and giving them my advice.

I have been reading with care and appreciation the accounts of the lives of Dr. Spicer and Dr. Breckenridge whom we remember today. When a person is suddenly snatched away from life at the very peak of his idealism and personhood, he sometimes leaves a more vivid impression than is left by those who, like old soldiers, simply fade away. They gave their lives in a cause that united the whole country, and we all share in the freedoms they helped to preserve. Those who were touched by their lives have recorded some of the factors that have made them memorable, and that have made them live on through their influence on others.

> "It is important that we choose our models from amongst the greatest and finest . . . for they will live with us longer than we may think."

Nelson Hairston, Professor of Biology and Ecology here at Chapel Hill, says that by introducing him to the fascination of the study of birds, Arnold Breckenridge had a profound influence on his life and on his career as an Ecologist. I was very happy to read that statement, because I myself started my interest in Ecology with a love for birds. I am no Ornithologist, but I have developed a deep sense of kinship with all of life on our planet, and I think it was birds that started it. Even as coalminers in England took caged canaries down into the mines with them to serve as warnings, because birds die of methane poisoning before humans do, so we humans in the USA need to watch what is happening to the birds of our country as a result of pollution. We shall be affected next. I myself would like to be remembered for having introduced others to a love of the earth and of all of its living things. On my way to this Medical Center today an old friend of Arnold's, Dr. Erle Peacock, took me to see Arnold's grave and the granite gravestone, on which were inscribed the simple words, "A Lover of Nature." So I applaud with gratitude the influence that Arnold has had, and continues to have through others in this respect.

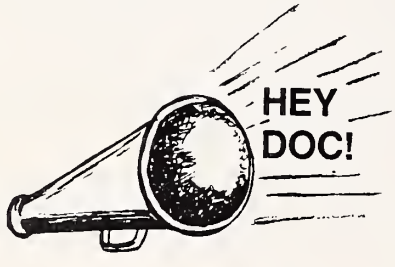
I do not know if you North Carolinians realize it, but your state has led the way in a most important field. You may think that you will be remembered for basketball. No, the unique thing about North Carolina is that a large number of your church and civic leaders have gotten together to form "The Land Stewardship Council of North Carolina." The initiative came from people, not government, and was spearheaded by the churches. People had realized how the soil of North Carolina was being washed away where there had been irresponsible deforestation and high pressure farming, and they determined to do something about it while

there was still time to save the land and trees for their children and grandchildren. Their influence has been tremendous, and their publications have set a model for all other states to copy. Who knows but Arnold Breckenridge's Ghost may have been working through his influence on some who grew up with him to bring about this awakening. Thank you Arnold for your love of all living things which still inspires people today.

Dr. John Graham, your Professor of Pathology at Chapel Hill, records of Emmet Spicer that he first knew Emmet through the Sunday School which both faithfully attended. Mr. Pope, a close buddy of his in the army, notes that Emmet gave him a little book by Henry Drummond called "The Greatest Thing in the World." Now, I happen to have read that book myself, and more than once, probably at about the same time, for I was about his age and the book was new then. It is the documentation of a sermon that was preached by Henry Drummond based on the Love of God and on that well-known chapter in the New Testament, 1st Corinthians 13, that describes the real meaning of *love*. All of this tells me something important about Emmet. A young officer in the army overseas does not carry books about great sermons with him into combat unless they mean something to him. Colonel Henry Townsend tells of Emmet's final single-handed foray into a valley in Corregidor that was controlled by the Japanese, but in which he knew there were many wounded American soldiers. Emmet lost his life bringing relief to the wounded men for whom he felt himself to be responsible. Colonel Townsend comments, "They say that there is no greater love than a man lay down his life for his fellow man. That was reenacted that day in that ravine in Corregidor Island."

For that example, and for that Spirit, we are grateful. We need it today in a culture where too many of us are led to think that the greatest thing in the world is money. Even in our own profession we easily fall to the seduction of wealth and power. We forget that we are called to serve our fellow man, and we forget the example of Jesus Christ, the Great Physician who said, "By gaining his life, a man will lose it; by losing his life for my sake, he will gain it." He lived up to his own words, even to the cross, and he knew joy as he saw the effect of his life on others. We need ghosts that will come back to us and remind us that we are servants and that it is in the giving of ourselves that we find our greatest happiness and fulfillment. Emmet Spicer, you knew then and I believe you know now, that the Greatest thing is *love*. Thank you for living it and for dying for it, and for telling us today that love and service to God and to our fellow men and women is worth living for and worth dying for.

Arnold and Emmet, you have inspired us today. May we hold to the best that you have taught us, and pass it on by the example of our own lives, to those who are still to come. ■



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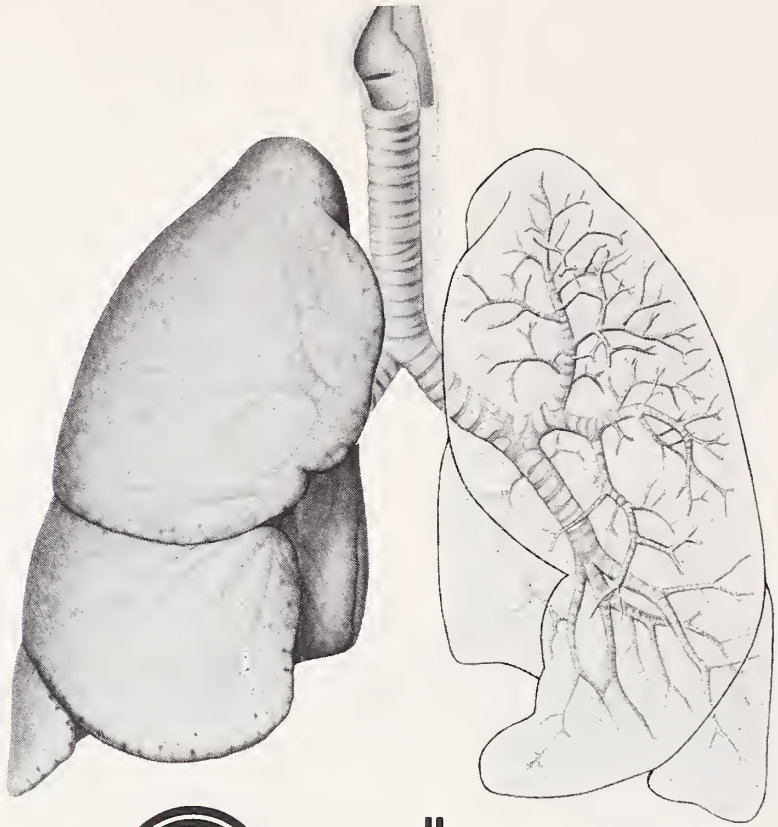
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Address of the President-Elect to the North Carolina Medical Society

Henry J. Carr, Jr., M.D.

First of all, I want to express my gratitude for the honor you have bestowed upon me by electing me as your President for the coming year. I am grateful for the confidence you have expressed in me in doing this and I will do my dead level best to justify that trust.

I approach this year with genuine humility and certainly with a great deal of apprehension, and right up front let me say that I sincerely solicit your support, your guidance, your suggestions, your encouragement, and yes, your prayers, as you and I face the many problems and opportunities of medicine currently in North Carolina. My predecessors over the past several years have set a fast pace and high standards as they have accomplished their tasks, and I pledge my best efforts to continue their programs and to deal with any new problems on issues that may arise, I hope with the same dispatch and level of excellence that they have shown.

Over 20 years ago I became actively involved in the North Carolina Medical Society mainly by the influence of two former Presidents of the Society. My former family physician in Roseboro whom I idolized and greatly respected, Dr. J. Street Brewer, encouraged me to "get involved" and had me appointed a member of the Constitution and Bylaws Committee. Dr. Roscoe McMillan of Red Springs was chairman of the committee at that time and he stimulated my further participation in Medical Society activities. As I reflect on my beginning, I feel that I had two excellent supporters who were also sterling examples of caring, dedicated, and loyal family physicians.

As I have observed the undertakings of the Medical Society through the years, the pace of activities has certainly quickened. Many times the House of Medicine has found itself at odds with other segments of society, i.e., government, third-party payors, business and industry and other health care providers, that would have undermined the prerogatives and responsibilities that physicians have to determine what, when, where, in what setting, and at what cost their patients will receive medical care. However, we must as physicians always keep the best interest of our patients as the number one and unyielding priority, no matter what the circumstance. We must always remember that in the health care system, the most important person or entity is the patient. We mustn't forget that, without the patient, we as physicians would have no purpose in life.

One of my goals in the coming year will be to continue to use the Society's most precious and tremendous resource, its members, to address health care issues in a manner that *builds* bridges among all segments of the North Carolina Medical Society, and between the Society and its allies, and even between the Society and those who are not now its allies. We need to improve relations among the various societies and academies within the North Carolina Medical Society. We have numerous problems that have already been identified that are common to all of us, including but certainly not limited to indigent care, physician diagnosis related groups, relations with professional review organizations, AIDS and sexually transmitted diseases, civil justice reform, and impaired physicians. We need to consolidate our efforts and work together to solve these problems. We certainly can be more effective in solving them, and that would in turn benefit the citizens of our state, if we pull together rather than working separately.

Another area that requires considerable attention is membership. Membership is the life's blood of any organization, both the recruitment of new members as well as the retention of present members. We have had a steady growth in North Carolina Medical Society membership for many years. In fact we have had 14 consecutive years of dynamic growth in AMA membership and North Carolina is the leader in the AMA in this category.

However, this year we have had some defections from our ranks, or put in another way, a failure to renew their commitment and membership by some members who are dissatisfied with happenings outside the jurisdiction and control of the North Carolina Medical Society, as well as other activities of the Medical Society, unanimously approved by the House of Delegates, i.e., the extra dues increase for the civil justice reform campaign. We could liken this problem to a cancer of the cecum with a slow blood loss and the gradual development of an anemia. What we need is a transfusion for our "membership anemia" to get

From President of the North Carolina Medical Society. Dr. Carr presented this address to the Society at its 133rd Annual Meeting, April 1987.

our Society, i.e., the patient, back in shape, so that we can proceed with definitive Rx (surgery) to cure the problem. We need a significant growth in new membership as soon as possible as well as reinstatement of those who have strayed to be able to carry out our objectives. We need that membership transfusion, not oral iron therapy, so we can get on with our goals now.

The Medical Society is taking steps to correct the problems that have caused the discontent among some members and we earnestly solicit their reinstatement and support. We certainly need their help and we feel that they need us. We know that this will be a mutually beneficial move for all of us. There is a large reservoir of non-member physicians in the state that we need desperately to tap. We have plans for a phonathon later in May [1987] to boost our rolls from this group.

The North Carolina Medical Society has many policies, programs, and activities that are clearly beneficial to our members and we must use these benefits to attract new members. Americans have an affinity to unite and form associations to solve problems as well as to protect their interests. Organized medicine, whether it be on the national level, state level, or local county or city level, is the best method to preserve and nurture our freedom to serve our patients as we believe we ought to (in their best interest) as well as to protect our own interests. We must portray this picture to those who are not, but should be, members of our Society.

I have no earth-shattering programs or new deals or fair deals, etc., that we plan to put forward. I think we have enough problems and incomplete programs upon which we need to concentrate and try to solve and conclude. We have lots of wheels that are squeaking and need greasing, and one of my objectives will be to lubricate the squeaking wheels of the North Carolina Medical Society. A few examples of the programs begun by my predecessors that merit our continued attention are:

1. The task force on sexually transmitted diseases and AIDS — this task force is hard at work on this mushrooming local and national health menace or "new plague" that demands immediate attention. This is clearly one of the most profound social and health dilemmas of this generation. One sound approach they have is educating the public about the disease as well as educating our health care professionals, especially the physicians and nurses in the state, as to the management and care, including the treatment, of AIDS victims. Another important aspect of AIDS currently is "what to do about testing." The task force is currently addressing that problem.

2. The task force on indigent care is making strides on how to address the care of the indigent and medically indigent in the state. This is a service that the Medical Society owes to the citizens of North Carolina. As was brought out in the reference committee Thursday, this is a problem of enormous magnitude.

3. Reforming the civil justice system is a difficult experience and a complicated problem that will require a long-term commitment to achieve success. We are working on the foundation of this campaign and are on schedule at this time.

4. The Task Force on Society Governance has worked diligently over the past year to bring you the material upon which you will debate and act later today. A most conscientious effort has brought forth these suggestions.

5. Carolina Doctors Care, the statewide alternative delivery system open to all our members, was chartered in June 1986 following a mandate of the 1986 House of Delegates in Asheville. A stock subscription was initiated and completed, with moderate success. Minimally adequate capitalization has been raised and a final feasibility study is in progress to determine whether or not there is sound data or indication that would warrant proceeding with the company. We have every expectation that Carolina Doctors Care will be well received in the marketplace; however, with the changing climate in alternative delivery systems and the indications that some other forms of health maintenance organizations different from Carolina Doctors Care have not been as well supported as had been expected, and others have met with hard times, final judgment will be reserved until the feasibility study has been completed. Carolina Doctors Care and the North Carolina Medical Society express gratitude to those member physicians who have supported this effort with their purchase of stock. Frankly, we were somewhat disappointed that the support was not greater from our members in purchasing stock; however, we hope that there will be an overwhelming participation response from the remainder of the membership across the state when the company becomes operational. This effort represents another step by the North Carolina Medical Society to assure that physicians maintain a voice which can be heard in the health care marketplace. To succeed we will need the help of all of you.

6. The Liaison Committee with the professional review organizations will continue to work in your behalf. This is one group that needs the input of the physicians as well as the various societies and academies across the state to be able to express your concerns and problems to the professional review organizations.

7. The Liaison Committee with the North Carolina Academy of Family Physicians is currently addressing problems and concerns that the Academy has that have arisen over the past one to two years. They are diligently trying to solve these disputes and improve internal relations.

8. Liaison with the Auxiliary is a high-priority item. We feel that the Auxiliary is one of our richest resources and we are most appreciative or their efforts and want to utilize them more. We stand ready to help them help us in any way that we can. When we hear that they conducted

over 200 health related programs across the state last year, and they collected over $40,000 through AMAERF for our four medical schools last year, we know that they are invaluable members of our team.

9. Over the last several years we have been impressed with the outstanding contribution that the Medical Students Section has made to the Society. Obviously the students are the physicians of the future and the ones who will be in our shoes soon. We want to help them in any way that we can so that the transition will be smooth when the time comes. We see that they need to be more involved now than ever before, because so many things are impacting on the health care system these days that will greatly influence their lives and practices a few years hence. We want the students and the resident physicians to know that we will support them in every way possible.

10. We want to work more closely with the Board of Medical Examiners generally, but especially with the expanded program of services for impaired physicians. We realize that this is an ever-increasing problem and we need to get a handle on this enigma or perplexing matter.

11. We hope to form closer alliances with specialty societies through the provision of administrative services as a headquarters function. We now have a formal relationship with six specialty societies and discussions are in progress now with two others, representing a total of 4,126 physicians across the state.

12. We will strive for closer association with the various divisions of the Department of Human Resources, which is deeply involved in the whole range of public health concerns, including AIDS. Also, we want to work closer with the Hospital Association, the Nurses Association, Physician Assistants, Medical Assistants, Medical Group Managers, and other health care professionals in North Carolina.

13. During the past year, we have been trying to repair some bridges between the North Carolina Medical Society and Blue Cross and Blue Shield of North Carolina. At each Board of Trustees meeting of Blue Cross and Blue Shield, a report of North Carolina Medical Society activities has been presented, and I feel that the Board of Trustees of Blue Cross and Blue Shield is genuinely interested in the activities of the Medical Society and greatly respects the Medical Society and seeks input from us regarding medical care in North Carolina. I think our input to them can be directly beneficial to the 25% of the citizens of this state they insure, as well as indirectly helpful to the other 75% of the people of North Carolina. Four physicians who are members of the North Carolina Medical Society are members of that Board, plus one additional representative from the North Carolina Medical Society, usually the President-Elect. Recently, Blue Cross and Blue Shield requested that a committee of six other North Carolina Medical Society physicians be appointed to offer guidance about the administration of the State Health Plan. This has been accomplished.

Don't get the idea that this Ship of State is in trouble. Many, many more things are working well than are not. Things have been left in very good shape overall by my predecessors and I'm going to try to stick to the old principle, "If it ain't broke, don't fix it."

Do not conclude from these remarks that we will not address additional issues as they arise. We most assuredly will. But my first commitment to you is to strengthen what we already have and to position your state Medical Society to better serve the citizens of North Carolina as well as the North Carolina Medical Society membership.

Thank you again for the privilege of serving you as President this coming year. Please feel free to let me hear from you, in any way you wish, and about any concern you have. I need your guidance and your support. ■

FP, GP, PED

Needed now to work with an unique, internationally respected rural health system network in Kentucky which includes a hospital, satellite clinics, a home health agency and a school of advanced nursing. A regional medical center is within 20 miles. The practice environment is stimulating – physicians and ARNP's work in joint practice teams; interaction with students is encouraged; the rural population presents a great range and intensity of medical problems.

The setting is in heavily-wooded mountains with a moderate 4-season climate. Seven state parks are within 80 miles.

Superior compensation/benefits package includes a guaranteed salary with incentives and malpractice. Call Deborah Pennington COLLECT at 1-502-897-2556.



Address of the Outgoing Auxiliary President

to the North Carolina Medical Society House of Delegates

Pamela Sacco

If you have ever thought that the role the Auxiliary plays in medicine is a small one, that if we did not have an organization we would never be missed, consider that last year Auxilians implemented more than 200 health education programs and services in communities across North Carolina — programs that helped the public realize that physicians' families *care* about the people who live there.

Auxiliary Programs

Twenty-four programs for older Americans, including day care, education/social programs, friendly visiting, hospice, and meal programs.

Twenty-five programs for children and youth, including adolescent pregnancy, child abuse education and intervention, birth defects, and day care.

Forty-five community health programs, including blood donation, cancer education, school health education, AIDS education, screening, and nutrition.

Seventeen community service programs, including health fairs/exhibits, resource guides, and hospital hospitality houses.

Eight family life programs, including parenting, counseling, spouse abuse, and support groups.

Twelve health career programs, including loans and scholarships worth over $27,000.

Fourteen child safety seat programs.

Twenty-two substance abuse programs, including alcohol, drugs, smoking, and impairment.

In addition, the counties raised more than $41,000 for the American Medical Association Education and Research Foundation and contributed $93,000 to community causes.

From the State Student Loan Fund, which grants up to $2,000 to second-, third-, and fourth-year medical students, we provided $12,000 in loans to seven students.

Joint ventures with the local county societies, once entirely social with occasional shared speakers, now include: health hotlines, educational workshops, benefit basketball games in which the physicians are the players as well as the cheerleaders, legislative forums and receptions, and even a joint long-range planning committee! These opportunities to involve physicians in their local communities are being created by Auxilians. Although these are achievements in which to take pride, they are only the beginning of what is needed between county medical societies and their auxiliaries to check the problems facing medicine.

I urge you as delegates to share with your county auxiliary the same kind of relationship the NCMSA shares with the NCMS. Members of the Executive Council as well as the headquarters staff offer their expertise, guidance, and services.

In contrast, our survey of county presidents indicates that only 15 make an annual report to their society and fewer that 35% attend their board of directors meetings. The time is right to acknowledge the Auxiliary's contribution by offering them this recognition in your local organizations.

Though we are not physicians, we are a visible segment of the medical profession and all that it stands for. Our neighbors and the general public regard us as such. We hope you do.

I submit that the Auxiliary is a first-class, high-powered, unique organization with a mission which stresses the advocacy of quality healthcare and health education for the people of North Carolina. It is your volunteer arm and it works for you and the communities in North Carolina.

An example is the MED-CARD project, which serves the communication needs among healthcare providers in our increasingly mobile society and in this era of alternative delivery systems. By carrying the MED-CARD in their wallet, patients in North Carolina will carry a complete list of currently taken prescription drugs. Nine county auxiliaries have already adopted this project which was introduced during Mid-Winter Conference.

The Auxiliary's mission also requires a supportive relationship among our members who are actively involved in

From P.O. Box 1086, Hendersonville 28793. This speech was delivered at the 133rd Annual Session of the North Carolina Medical Society, April 1987.

carrying out our programs. To that end we have established, in coalition with you, a Professional Liability Support Group which puts members in touch with physician/spouse "listeners" who have experienced the legal process and the impact of a lawsuit.

I think you will all agree that there is not enough money in the world to buy the kind of public relations that physician's spouses are capable of providing by demonstrating this caring concern in joint efforts.

Shakespeare said, "What is past is prologue." All of these accomplishments are only the beginning. Our members await the challenge of tomorrow and are ready to become involved. We will not rest until we replace malpractice with gratefulness for longer and healthier lives.

Thank you for the confidence you have offered the Auxiliary by according us the privilege of addressing you today. Our pride comes from our identification with you. No other organization can claim to be a part of your ranks. It has made a difference! ■

TWO NIH CONSENSUS DEVELOPMENT CONFERENCES

Magnetic Resonance Imaging

A Consensus Development Conference on Magnetic Resonance Imaging, sponsored by the NIH Warren Grant Magnuson Clinical Center, Diagnostic Radiology Department and by the NIH Office of Medical Applications of Research, will be held in the Warren Grant Magnuson Clinical Center, National Institutes of Health, Bethesda, MD, October 26-28, 1987.

This open forum will focus on the efficacy of magnetic resonance imaging (MRI). It will address the following questions:

Are there contraindications to or risks of MRI?
What are the technological advantages and limitations (disadvantages) of MRI?
What are the clinical indications for MRI, and how does it compare with other diagnostic modalities?
What are the directions for future research in MRI?

NIH consensus conferences bring together biomedical investigators, practicing physicians, consumers, and representatives of public interest groups to provide a scientific assessment of drugs, devices, and procedures and to evaluate their safety and effectiveness. On the final day of the meeting, the consensus panel chairperson will read the draft statement before the conference audience and invite comments and questions.

To register for the conference, please contact Sharon Feldman, Prospect Associates, Suite 500, 1801 Rockville Pike, Rockville, MD 20852, 301/468-6555.

Geriatric Assessment Methods for Clinical Decision Making

The National Institute on Aging and the NIH Office of Medical Applications of Research, in collaboration with the National Institute of Mental Health, the Veterans Administration, and the Henry J. Kaiser Family Foundation of Menlo Park, CA, is sponsoring a consensus development conference on geriatric assessment methods for making clinical decisions. It will be held at the National Institutes of Health in Bethesda, MD, on October 19-21, 1987.

The care of older persons is becoming an ever-increasing responsibility for all but a few physicians and other health care providers. Before practitioners can make reasonable judgments about the best care strategies for each older individual, it is clear that appropriate patient data must be collected.

The type of data and the methods for their collection can affect the outcome of geriatric care, improve the quality of life, and reduce overall health care costs. Because diseases in the older patient may present themselves differently, the geriatrician must conduct the assessment with an eye toward total care. Accurate diagnosis requires information about the person's functional capacity or ability to carry on daily activities. In addition, the health care provider will need to obtain certain data about the individual's social supports, personal resources, and environment. To this end, a body of knowledge is being amassed about the instruments and methodologies of geriatric assessment. Although information relevant to all of the above areas is needed under most circumstances, it is important that health professionals know which techniques are especially useful in one situation or another.

This conference will bring together physicians and other health care professionals with a special interest in geriatric medicine, social scientists, investigators in the area of health services research, and representatives of the public. Following one and a half days of presentations by leaders in the field and discussion by the audience, a consensus panel will weigh the scientific evidence and formulate a draft statement in response to the following questions:

What are the goals, structure, processes, and elements of assessment for clinical decision making?
What are the comparative merits of different methods in carrying out geriatric assessment?
What is the evidence that a geriatric assessment is effective? If an assessment is effective, in what settings, for whom, and for which outcomes?
Insofar as a geriatric assessment is effective, what linkages to clinical management systems are required?
What are the priorities for future research in geriatric assessment?

On the final day of the conference, the consensus panel chairman will read the draft statement to the conference audience and invite comments and questions.

To register to attend the conference, please contact Ms. Marti Bernstein, Prospect Associates, 1801 Rockville Pike, Suite 500, Rockville, MD 20852, 301/468-6555.

Address of the Incoming Auxiliary President

to the North Carolina Medical Society Auxiliary

Jacqueline T. Snyder

I accept the challenge and the trust you have placed in me. This year I have discovered a "new dimension" of respect for all our state presidents. It is the past leadership that has set the standards for Auxiliary achievements today. Because each year builds upon previous ones, we will continue to incorporate their goals. We will ensure that the past accomplishments of the Auxiliary are preserved while at the same time initiating new ideas.

The history of the Auxiliary began as friendship and fellowship among physician spouses. It was organized at the recommendation of the president of the House of Delegates of the North Carolina Medical Society. Originally, the Auxiliary was called the Woman's Auxiliary to the Medical Society of the State of North Carolina. On April 18, 1923, Mrs. Paul P. McCain was acting chairman of the organizational meeting, which was held in Asheville. The Constitution and Bylaws were adopted and Sadie McCain of Southern Pines was elected president. The next meeting was held in Raleigh with dues set at $1 per year. In 1925, although the social side of the Auxiliary was stressed, members began to desire a role of service to the community. To quote from "Medicine in North Carolina," Volume I: "Its members have become knowledgeable citizens, and outstanding leaders in varied fields. Cognizant of state health and welfare needs, the Auxiliary has attempted to reach new heights each year." That was written in 1969. In 1987-88 we will continue to climb the mountains in their footsteps.

My theme for this year is "Climb Every Mountain." Certain landscapes have the power to elevate the soul — you sense you can distinguish again between what is fundamentally important and what is mere frill in your life. There is no longer time for "frill" in Auxiliary life. We must accept the challenge to climb the mountains of revolution in health care and look to the future.

With this view from the mountain top of all the possibilities and potentials of a far-reaching Auxiliary, a unified voice throughout the state, there is a need to draw our members into a close, supportive organization where spouses have an opportunity to work with their physicians to help medical education in their communities. Remember, "our image is a reflection of our service" (Betty Szewczyk, AMA Auxiliary President-Elect). It isn't always easy to keep up our image as the doctor's wife who is above reproach when we are constantly in the public eye. But we must not forget who we are, where we came from and why we are here. We are varied, we come from many backgrounds, cultures, civilizations, religious beliefs and customs. Yet — we do not fall into the mistake of collective rudeness which can be a crime against our good manners. We do not offend, insult, or intimidate our members by remaining ignorantly and blasé-ly aloof to those differences.

Do you think of yourself in terms of being loyal? Loyalty is an old-fashioned word that can seem outdated in our complex society. Yet never has a principle been more relevant to modern life and to our deepest needs. Loyalty is the quality of being faithful to a person, a belief, or an organization. Like love, loyalty enlarges and enriches both those who give it and those who receive it. Loyalty requires you to know what your values are. Loyalty asks you to stand up for what you believe in.

I need the help of everyone with loyalty and pride to make NCMS Auxiliary the best Auxiliary. This has been called a decade with no signature — the pervading factor has been change. I believe we are going to see even more dramatic changes in the next few years, not only in medicine, but also in Auxiliary. Keep in mind though, that without change, there is no growth — without growth, we start to die. Over the years every Auxiliary article across the nation has discussed challenges to be faced and changes to be coped with, but we have lived and changed with them. The dream of Auxiliary is not going to die with us because of these changes — it will continue with us as we climb those mountains. "We must see that the challenges that confront us on every hand do not erode the traditions we hold dear, but rather, that we see those challenges as the means through which our unified efforts become more rel-

From 378-A Pine Ridge Drive, Whispering Pines 28327. This speech was delivered at the 64th Annual Convention of the North Carolina Medical Society Auxiliary, May 1987.

evant to our times and more effective for those people we seek to serve'' (Mary Kay McPhee, Immediate Past President, AMA Auxiliary).

We must continue with the NCMS Auxiliary initiatives for health in aging, substance abuse, human abuse, parenting, adolescents, legislation, smokeless tobacco and health care costs. Our physician spouses are expected to produce the impossible, but when the problem is not solved then the public concludes it must have been negligence or malpractice. We will continue to work to enhance the physician image and change the public image of medicine. We will work closely with our medical societies and become knowledgeable about changing health care. In legislation, we must help to pass tort reform so this crisis will not change medical care as we know it today. We must also create avenues of support for those whose spouses are involved in malpractice litigation. We will increase our AMA-ERF and state student loan efforts to raise funds for medical students and schools.

Since one-third of the medical school graduates are women, we can no longer tailor our membership programs to women, but will target male spouses as well. With one-fourth of the physician families working outside the home, we will have meaningful programs for the career spouse. We will continue special support to resident physician spouses and encouragement of members-at-large. We best serve the 35-45 age group, so now we need to place special emphasis on spouses of retired physicians and widows. We will encourage all these levels of membership because in this age of competition, we must make Auxiliary so prestigious that people will look forward to joining it as their main priority. We have the potential of being the very top of the line among the effective volunteer networks in place today.

With the mountain of change there will be an increasing number of community health areas which will need volunteer efforts to bridge the gaps from federal spending. These are the health services and areas of concern targeted for 1987-88.

1 **AIDS education:** Aids has continued to grow as a major public health problem. In cooperation with the medical societies, we will be involved in an AIDS health education program.

2 **Substance abuse:** *Smokeless Tobacco.* We will actively support programs which educate the public, especially youth, about the danger of using smokeless tobacco. *''Crack.''* We will raise the awareness level about the growing use of cocaine in the Carolinas. For years, cocaine has been the ''drug of choice'' for the social and moneyed elite, but ''crack'' has now invaded all segments of our society.

3 **Human abuse:** *The shaking shocker.* Medical studies and statistical evidence give witness to the severity of damage caused by shaking *or* throwing a child in the air. We will provide education on child whiplash syndrome or brain trauma. (This is not necessarily a case of abuse, but may be done in ignorance by those who are unaware of these serious consequences.)

4 **Aging:** *Suicide of the elderly.* Elderly Americans take their lives far more often than adolescents, and their suicide rate is more than 50% above that of the general population.

5 **Impairment:** *The physician spouse.* Alcohol, marijuana, and cocaine are the primary drugs that affect all homes — *including* the physician spouse in the medical family. In this time of stress within the medical community, we will emphasize the concept of auxiliary as a support group.

NCMS Auxiliary has concerned itself with many valuable health issues in the past, and all of them remain vital to the good health of our country's population. Since one program or project may not be enough to reinforce an issue, nor will everyone be reached at first, we must continue to educate community members about all of these ongoing health problems. We do not discard viable programs, but each year we offer resource material or additional areas so that the Auxiliary will always be in the forefront of current needs and trends.

I know that the definition of a good speech is a beginning and a conclusion — not too far apart. I will close with a reminder of one of our Auxiliary concepts. When Edmund Hillary and native guide, Tenzing, climbed Mount Everest, Hillary suddenly lost his footing. Tenzing held the line taut and kept them both from falling by digging his axe into the ice. Later, Tenzing refused any credit for saving Hillary's life. As he put it: ''Mountain climbers always help each other.'' Should we be any different? ■

PHYSICIANS, SCHEDULE SOME TIME FOR YOUR COUNTRY.

Many physicians would like to devote some time to their country in a local Army Reserve unit. We know that making a weekend commitment can be difficult for most physicians. So it is practical for the Army Reserve units to be flexible about time. It's worth discussing.

Incidentally, in addition to satisfying your own desire to serve your country, there are exceptional opportunities to do something totally different from a day-to-day routine. Opportunities to study new areas of medicine, meet new people in your specialty, and be a part of one of the world's most advanced medical teams.

Discuss the opportunities with our Army Medical Personnel Counselor.

FOR SURGEONS LOOKING FOR A CHALLENGE.

Your challenge could be the Army Reserve unit near you. It's a unit that requires the services of surgeons.

You may wish to explore the challenge of teaching in a major medical center. You may wish to explore the special challenges of your specialty in triage. Certainly you'll be confronted by challenges very different from your daily routine.

You'll also have an opportunity to participate in a number of programs in which you'll be able to exchange views and information with other surgeons from all over the country.

The Army Reserve understands the time demands on a busy physician, so you can count on us to be totally flexible in making time for you to share your specialty with your country. We'll arrange your training program to work with your practice.

To find out about the benefits of serving with a nearby Army Reserve unit, we recommend you call our Army Medical Personnel Counselor.

PHYSICIANS, THERE ARE TWO KINDS OF FLEXIBILITY IN THE ARMY RESERVE WE THINK YOU'LL LIKE.

One, time. We know how tough it is for a busy physician to make weekend time commitments. So we offer flexible training programs that allow a physician to share some time with his or her country. We arrange a schedule to suit your requirements.

Two, the opportunity to explore other phases of medicine, to add a different kind of knowledge—the challenge of military health care. It's a flexibility which could prove to be both stimulating and rewarding, with the opportunity to participate in a variety of programs that can put you in contact with medical leaders from all over the country.

See how flexible we can be, call our Army Medical Personnel Counselor.

ARMY RESERVE. BE ALL YOU CAN BE.



HERE'S ONE DOCTOR WHO WON'T PAY HIS MALPRACTICE PREMIUMS THIS YEAR.

The Army covers his premiums. Since he's an Army Physician, there are a lot of worries associated with private practice that he won't have to contend with. Like excessive paperwork, and the overhead costs incurred in running a private practice.

What he will get is a highly challenging, highly rewarding experience. The Army offers varied assignments, chances to specialize, or further your education, and to work with a team of dedicated health care professionals. Plus a generous benefits package.

If you're interested in practicing high quality health care with a minimum of administrative burdens, examine Army medicine. Talk to your local Army Medical Department Counselor for more information.

ARMY MEDICINE. BE ALL YOU CAN BE.

MAJOR OPPORTUNITIES FOR HEALTH PROFESSIONALS.

Army Medicine
Federal Office Bldg.
P.O. Box 10167
Richmond, VA 23240
Call collect: (804) 771-2354

Army Reserve Medicine
2634 Chapel Hill Blvd.
Suite 205
Durham, NC 27707
Call collect: (919) 493-1364



Letters to the Editor

Internist's Lament

To the Editor:

For as long as I can remember, there has been a problem in allowing terminal or elderly patients to die with dignity in a hospital. I am not sure that recent legislation has helped much. Unless I am misinformed, legislation was supposed to make it easier to die in the hospital when hope was lost. I feel that our hospitals have interpreted the law in a manner that protects themselves rather than the patients' dignity. I am not certain that protection [of hospitals] is necessary. I realize that we need rules and policies, but I sometimes think that rules lack common sense.

Let me clarify with examples. Dr. _____ tells me that at one time he was asked to return to the hospital at night to write an order that specifically stated "No Code." The words "do not resuscitate" were not sufficient. I have had the same experience. This week I was called by a nursing supervisor to come in to the hospital and rewrite a "No Code" order. An appropriate "No Code" was written when the patient was in the Intensive Care Unit. The supervisor stated that it was "hospital policy" to rewrite a "No Code" order after the patient was transferred to the floor. I am sure that most Internists have witnessed the deterioration of an elderly patient in the middle of the night and were required by "hospital policy" to come in and write the "No Code" order. No verbal orders would be allowed. The elderly patient dying of cancer would be coded if he [the doctor] did not personally come in and write the order.

I wonder if our legislators really intended for the law to be interpreted so rigidly. Is the hospital's concern about legal protection by a hand-written order valid? Is there really legal precedent for this concern? Do all hospitals interpret the state legislation as rigidly as ours? Have we really provided the patient with greater dignity or have we created a bureaucratic nightmare that decreases rapport between the nursing staff and medical staff?

It is this Internist's feeling that something is wrong when "hospital policy" supersedes all good common medical sense. Physicians used to be adept at cutting through the red tape and eliminating the depersonalization of health care. I feel that we should change hospital dictums that run contrary to common sense. How do we do so?

David B. Gilbert, M.D.
1756 Metromedical Dr.
Fayetteville 28304

A comment on Fort and Grigg's article

To the Editor:

The paper on carbon monoxide (CO) poisoning by Fort and Griggs (Carbon Monoxide Poisoning in North Carolina 1987;48:317-21) is important because of the prevalence of the problem. The paper is useful for the lay person, however, I think several points should be made for the benefit of medical people who may use this as a reference.

As mentioned, carbon monoxide certainly binds to hemoglobin, but of more importance is the fact that it also binds to other iron-containing proteins such as myoglobin and the cytochromes. Even very high carboxyhemoglobin (COHb) levels do not usually produce serious morbidity, but the principle toxic effects of CO result from its attachment to cytochrome A3 in the cell mitochondria. In humans about 15% of the body store of CO will be found outside the vascular system and the CO which is physically dissolved in the blood is more important than absolute COHb levels.

It is very difficult to accurately assess the severity of carbon monoxide poisoning. The table of COHb levels and effects as presented by the authors has been in the literature for many years. However, there is no correlation between symptoms, severity of exposure and levels of carboxyhemoglobin. A long exposure to low levels of carbon monoxide may be more harmful than a short exposure to high levels. A patient with a level below 20% may be comatose while another patient with a level close to 50% is unimpaired. COHb levels when obtained after a delay or treatment with oxygen may be normal and not reflect the true insult.

The decision about diagnosis depends on observation and physical evaluation of the patient. The patient should be treated according to clinical status. If a hyperbaric facility is readily available it should be utilized. Even mildly poisoned patients will gain significant relief. Due to the enhanced vulnerability of the fetus, treatment for the pregnant patient should be liberal. The criteria for treatment following carbon monoxide exposure are simple. Any degree of cerebral obtundation (may be subtle) and/or a carboxyhemoglobin level greater than 20% warrants immediate treatment with hyperbaric oxygen. Remember that if the patient has been receiving oxygen, the half-life of CO is reduced and the carboxyhemoglobin level may give a false impression. It cannot be overemphasized that a COHb value within normal limits does not rule out a significant case of CO poisoning.

Hyperbaric oxygen treatment of carbon monoxide poisoning immediately corrects tissue hypoxia, increases the rate of carbon monoxide elimination from the body, and provides a beneficial effect on cerebral edema. The common opinion that a patient having survived exposure to carbon monoxide has a good prognosis is invalid and should not discourage consideration for optimum therapy. Hyperbaric oxygen may prevent long rehabilitation and serious sequelae.

Emergency consultation may be obtained by calling 919/684-8111 at Duke University Medical Center and asking for the Divers Alert Network (DAN) hyperbaric physician on call. DAN maintains liaison with all the active hyperbaric chambers in North America and the Caribbean and can arrange referral regardless of the patient's location.

G. Yancey Mebane, M.D.
Assistant Professor of Community and Family Medicine
Medical Director, Divers Alert Network
P.O. Box 3823
Duke University Medical Center
Durham 27710

Reference: Myers RAM, Linberg SE, Cowley RA. Carbon monoxide poisoning: the injury and its treatment. JACEP 1979;8:479-84.

A comment on the article by Dr. Aluise et al.

To the Editor:

An article which appeared in the June issue of the Journal, "Implications for Fee-for-Service Practices Affiliated with Independent Practice Associations" (Aluise JJ, Bradley D, Zelman B, 48:334-8), listed several sources of information for physicians who are considering contracting with HMOs. I would like to acquaint your readers with another — Medical Advocacy Services, Inc. (MASI), a subsidiary of the American Society of Internal Medicine. MASI was organized in January 1986 to provide contract analysis and negotiation assistance to physicians of all specialties. To date, we have analyzed contracts for physicians in 37 states.

Common problems found by MASI in physician contracts include ambiguous clauses regarding turnaround time for payment of claims; references to policies and procedures that are not included as part of the contract but with which the physician is expected to comply; and clauses which allow for arbitrary termination of physicians or commit physicians to outstanding obligations after their participation in the plan has ended. A careful evaluation of the legal and practical implications of participation in a particular plan frequently reveals that it is not a good deal from the physician's standpoint or that certain changes should be made in the contract in order to strengthen the physician's position vis-a-vis the health plan.

Physicians interested in more information about the services available through MASI can write or call: Medical Advocacy Services, Inc., 1101 Vermont Avenue, NW, Suite 500, Washington, DC 20005; 202/289-0027 (collect).

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September 10
Second Annual Gerontology Conference
Place: Chapel Hill
Fee: $42
Info: Continuing Ed. Program, UNC-CH School of Nursing, Carrington Hall 214H, Chapel Hill 27514. 919/966-3638

September 20-23
Basic Clinical Teaching Skills
Place: Rougemont
Credit: 20 hours Category I AMA, AAFP
Info: Cindi Easterling, Office of CME, Box 3108 DUMC, Durham 27710, 919/684-6878

September 21
Diagnostic Ultrasound: Physics
Place: Winston-Salem
Credit: 7 hours Category I AMA
Info: Registrar, Ultrasound Center, Bowman Gray School of Medicine, 300 S. Hawthorne Rd. Winston-Salem 27103. 919/748-4505

September 22-23
Ninth Annual Health Law Forum. Alternative Delivery Systems: Immediate Impact on Physicians and Hospitals
Place: Greenville
Credit: 7 hours Category I AMA
Fee: $125
Info: Office of CME, ECV, P.O. Box 7224, Greenville 27835-7224. 919/551-5200

September 22-25
Diagnostic Ultrasound: Obstetrics
Place: Winston-Salem
Credit: 7 hours Catetory I AMA per day
Info: Registrar, Ultrasound Center, Bowman Gray School of Medicine, 300 S. Hawthorne Rd. Winston-Salem 27103. 919/748-4505

September 25-26
Nutrition Support Update 1987 — A Multidisciplinary Symposium
Place: Wilmington
Credit: 9 hours Category I AMA
Info: Mary C. Valand, MSW, ACSW, Office of CME, ECU, P.O. Box 7224, Greenville 27835-7224. 919/551-5200

September 25-26
Topics in Geriatrics
Place: Winston-Salem
Fee: $100
Info: Emery C. Miller, M.D., Division of Continuing Education, Bowman Gray School of Medicine, 300 S. Hawthorne Dr., Winston-Salem 27103. 919/748-4450

September 25-26
Advanced Cardiac Life Support Provider Course
Place: Asheville
Credit: 16 hours Category I AMA, ACEP, AAFP
Fee: $200
Info: Daniel L. Dolan, M.D. MAHEC, 501 Biltmore Ave., Asheville 28801-4686. 704/257-4468

September 28-October 2
Diagnostic Ultrasound: General
Place: Winston-Salem
Credit: 7 hours Category I AMA per day
Info: Registrar, Ultrasound Center, Bowman Gray School of Medicine, 300 S. Hawthorne Rd. Winston-Salem 27103. 919/748-4505

September 30
First Annual Down East Dermatology Day
Place: Greenville
Credit: 6¼ hours Category I AMA, 6¼ hours AAFP
Info: Mary C. Valand, MSW, ACSW, Office of CME, ECU, P.O. Box 7224, Greenville 27835-7224. 919/551-5200

October 4-6
Fifth Symposium on Breast Disease
Place: Winston-Salem
Fee: $365
Info: Emery C. Miller, M.D., Division of Continuing Education, Bowman Gray School of Medicine, 300 S. Hawthorne Dr., Winston-Salem 27103. 919/748-4450

October 9
Cardiac Arrhythmia Symposium
Place: Greenville
Credit: 6.5 hours Category I AMA
Info: Mary C. Valand, MSW, ACSW, Office of CME, ECU, P.O. Box 7224, Greenville 27835-7224. 919/551-5200

October 12-16
Diagnostic Ultrasound: Neurosonology
Place: Winston-Salem
Credit: 7 hours Category I AMA per day
Info: Registrar, Ultrasound Center, Bowman Gray School of Medicine, 300 S. Hawthorne Rd. Winston-Salem 27103. 919/748-4505

October 14-18
NCAFP Annual Scientific Assembly
Place: Asheville
Credit: 18 hours AAFP
Info: Paula Baker, Meeting Coordinator, North Carolina Academy of Family Physicians, P.O. Box 18469, Raleigh 27619. 919/781-6467

October 18-19
Endoscopy and Esophageal Strictures
Place: Research Triangle Park
Credit: 10 hours Category 1 AMA
Info: Dr. Peter B. Cotton, 919/684-3341

October 19-21
Diagnostic Ultrasound: Arterial & Venous Doppler
Place: Winston-Salem
Credit: 7 hours Category 1 AMA per day
Info: Registrar, Ultrasound Center, Bowman Gray School of Medicine, 300 S. Hawthorne Rd. Winston-Salem 27103. 919/748-4505

October 20
Men & Reproductive Health — A Shared Responsibility Conference
Place: Durham
Info: Karen Price, Director of Education, Planned Parenthood of Orange County, P.O. Box 3258, Chapel Hill 27514. 919/929-5402

October 22-23
Diagnostic Ultrasound: Urology
Place: Winston-Salem
Credit: 7 hours Category I AMA per day
Info: Registrar, Ultrasound Center, Bowman Gray School of Medicine, 300 S. Hawthorne Rd. Winston-Salem 27103. 919/748-4505

October 23
Dean's CME Program: Excellence in Medical Education
Place: Greenville
Credit: 6 to 7 hours Category I AMA
Info: Mary C. Valand, MSW, ACSW, Office of CME, ECU, P.O. Box 7224, Greenville 27835-7224. 919/551-5200

October 26-30
Diagnostic Ultrasound: Echocardiography
Place: Winston-Salem
Credit: 7 hours Category I AMA per day
Info: Registrar, Ultrasound Center, Bowman Gray School of Medicine, 300 S. Hawthorne Rd. Winston-Salem 27103. 919/748-4505

October 28-29
5th Annual Stroke Rehabilitation Symposium
Place: Chapel Hill
Info: Martha McLamb or John Bierma, Wake AHEC, 919/755-8295

October 30-31
Lasers in Gynecology
Place: Greenville
Credit: 14.5 Hours Category I AMA
Info: Mary C. Valand, MSW, ACSW, Office of CME, ECU, P.O. Box 7224, Greenville 27835-7224. 919/551-5200

October 30-31
Advances in NonSurgical Therapy of Biliary Calculi
Place: Winston-Salem
Info: Emery C. Miller, M.D., Division of Continuing Education, Bowman Gray School of Medicine, 300 S. Hawthorne Dr., Winston-Salem 27103. 919/748-4450

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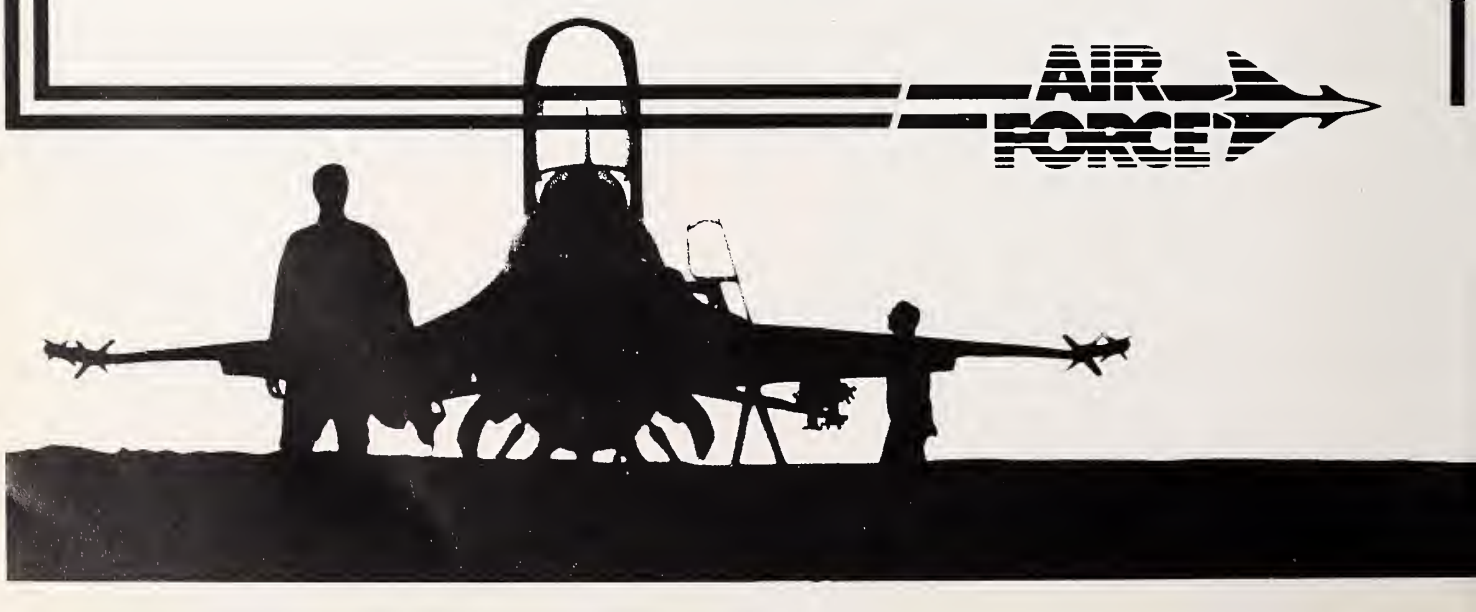
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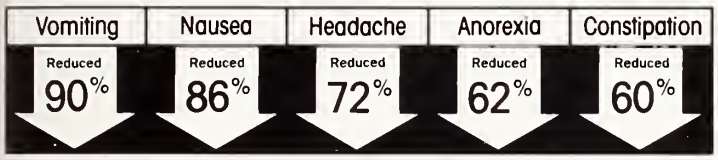
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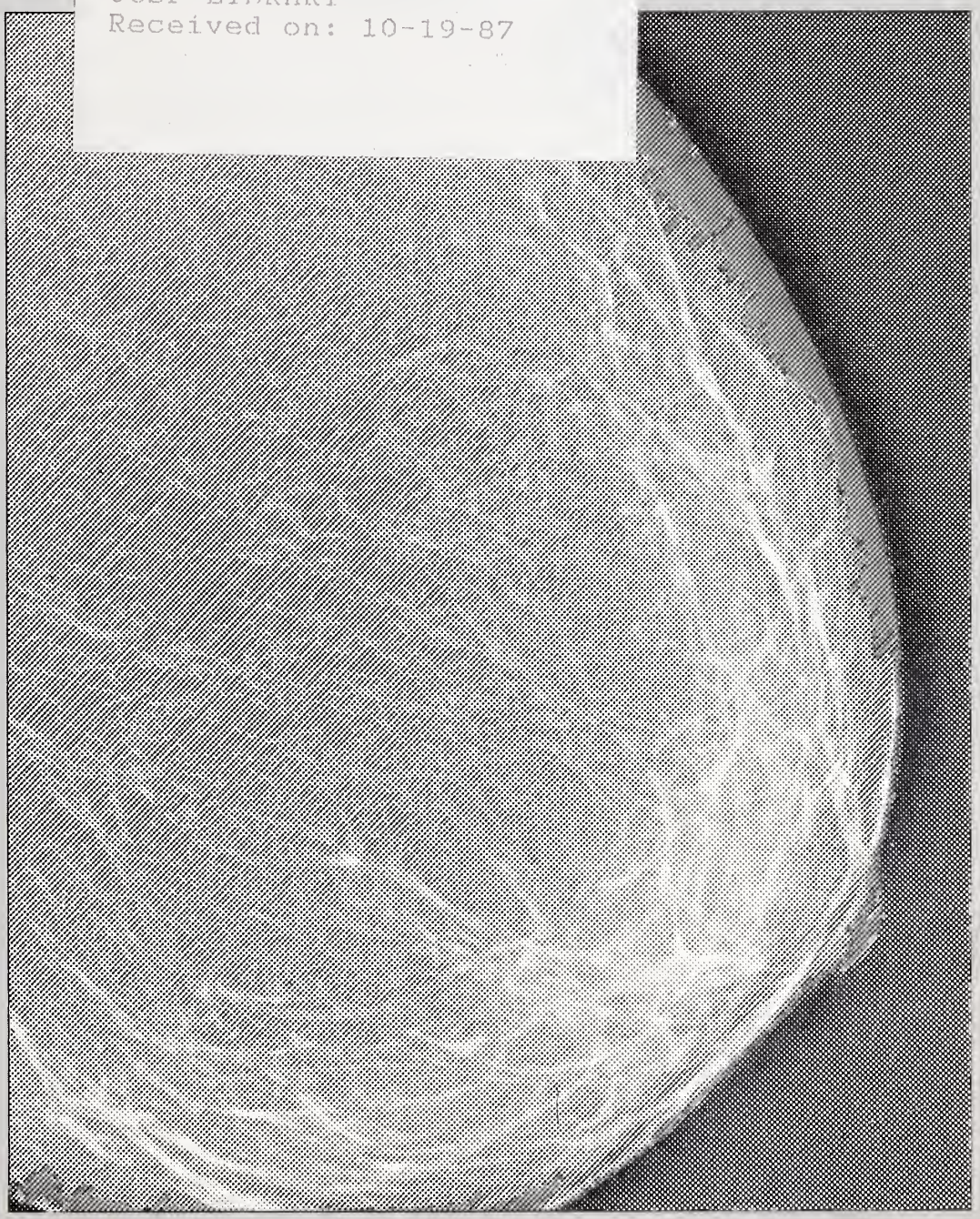
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Breast Cancer Detection

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919/693-4531

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FOR DOCTORS AND THEIR PATIENTS

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About the Guest Editor

Robert S. Sandler, M.D., M.P.H.

Dr. Sandler, Assistant Professor of Medicine and Clinical Assistant Professor of Epidemiology at the University of North Carolina at Chapel Hill, graduated from the Yale University School of Medicine in 1975. He completed training in internal medicine at the George Washington University School of Medicine and in gastroenterology at the University of North Carolina at Chapel Hill. Following completion of his GI fellowship, Dr. Sandler attended the UNC School of Public Health where he received an M.P.H. in epidemiology in 1982. He has been the recipient of a Junior Faculty Clinical Fellowship from the American Cancer Society and a Preventive Oncology Academic Award from the National Cancer Institute. His research interests concern cancer etiology, screening, and prevention, as well as the epidemiology of chronic digestive conditions.

Why is a gastroenterologist the guest editor of an issue on breast cancer? Dr. Sandler has been an active member of the North Carolina Division of the American Cancer Society where he serves as chairman of the Professional Education Committee and as chairman of the ad hoc committee on Breast Cancer Detection Awareness (BCDA). The BCDA committee thought that an excellent way to launch the breast cancer education program in North Carolina would be through the *North Carolina Medical Journal*. As chairman of the BCDA committee, and as someone with a strong commitment to cancer prevention, Dr. Sandler enthusiastically agreed to serve as editor.

EDITORIAL

Breast Cancer Awareness

Robert S. Sandler, M.D., M.P.H.

This issue of the *North Carolina Medical Journal* is devoted to detection and management of breast cancer. The issue launches a three-year effort by the North Carolina Division of the American Cancer Society to increase breast cancer detection awareness by physicians and the public. The articles, which deal with a broad range of topics, have each been contributed by American Cancer Society volunteers who are involved in the Breast Cancer Detection Awareness Program.

The rationale behind the breast cancer effort is obvious. Breast cancer is distressingly common and frequently fatal. Although some progress has been made in early detection and treatment, the mortality rate is far higher than it should be. If women and their physicians took advantage of currently available diagnostic techniques, the story would be different. There is clear evidence that early detection is associated with prolonged survival and less disfiguring surgery, but most women do not take advantage of opportunities for early detection.

There are several specific steps that we as physicians can take to improve the picture. First, we can emphasize the importance of breast self exams and teach the technique. Most breast cancers are now discovered by women themselves. By learning the technique of breast self exam, women will enable themselves to appreciate the normal characteristics of their breasts and to detect departures from the normal more quickly. The article by Hayes in the "For Patients" section of the *Journal* describes the technique of breast self examination. Second, we can perform more diligent exams ourselves. O'Malley and Fletcher provide some important information about the clinical breast exam. Their most significant message, while not unexpected, is crucial nonetheless — the more time we spend on the examination, the more lesions we detect. While the busy practitioner may find it difficult to spend the time needed, perhaps other health professionals can be recruited for the task. Finally, we should be certain that women take advantage of mammography. As pointed out by Bertrand et al., there are several studies which document the survival advantage conferred by early detection. Most women have not had a mammogram because of concerns about risk, expense and effectiveness. With the current generation of low dose mammography equipment, the falling costs, and the clear improvements in survival with cancers discovered by mammography, these concerns are unfounded.

The American Cancer Society is currently promoting Breast Cancer Detection Awareness, but once a cancer is detected, what can be done for the patient? Several articles in this special issue provide timely information. Newsome outlines some of the factors that dictate current surgical management of breast cancer based on the biology of the disease. In the past, breast cancer inevitably led to mastectomy. We currently understand that less extensive operations are appropriate in many instances. Ferree discusses the important role of radiation therapy in the management of the breast cancer patient, and Bernard reviews the role of chemotherapy. The article by Georgiade et al. on breast reconstruction highlights the potential of plastic surgery to improve the well-being of women who require mastectomy. Finally, Lannin suggests an approach for the follow-up of breast cancer patients. The risk of recurrence does not end after five years as with most other cancers. We might adopt the approach suggested by Lannin to follow these patients.

What about the future? Our most important need at present is to understand the factors which initiate and promote breast cancer. If we had better knowledge of these factors we might be able to prevent the disease. Epidemiologic studies have provided some leads. We now recognize certain of the factors which may increase a woman's risk of cancer. Advanced age, high socioeconomic status, low parity, late age at first live birth and positive family history all appear to be consistently associated with increased risk. Unfortunately these are not powerful risk factors and most cannot be modified. Several recent studies have suggested that alcohol may increase a woman's risk of breast cancer. Women with other risk factors should be encouraged to limit their alcohol use. Studies of other dietary components, especially fat, have had mixed results that prevent us from making firm recommendations. We obviously need more studies including those which link epidemiology with molecular biology.

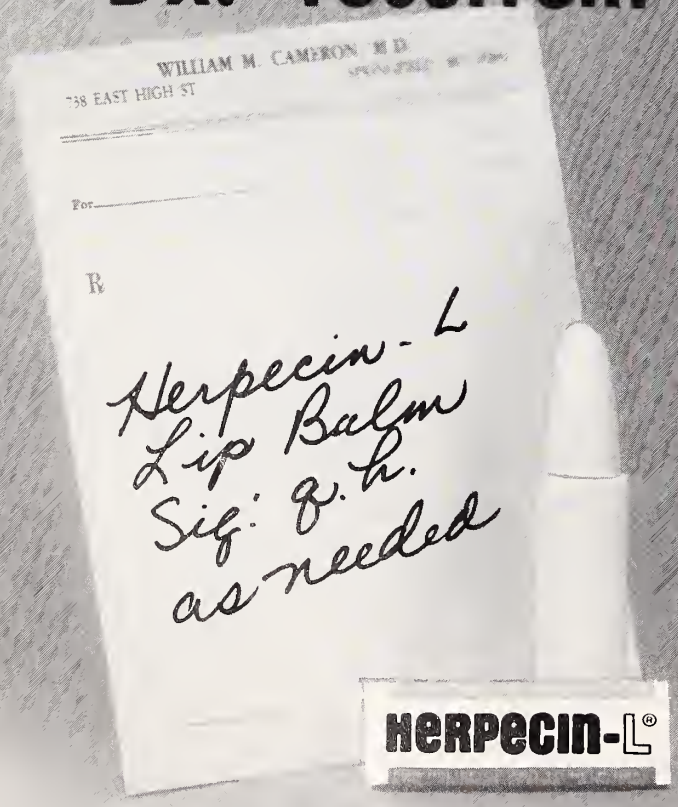
It is difficult to speculate about how changes in technology will affect our ability to detect breast cancer in the future. Newer modalities may further lower the size limit for detection, diminish (or eliminate) the radiation hazard,

From Departments of Medicine and Epidemiology, University of North Carolina, Chapel Hill 27514.

and better differentiate benign from malignant disease. Changes in the structure of breast diagnostic clinics may also improve our ability to detect breast cancer in a cost-effective manner. Perhaps hospitals and practitioners will establish "one-stop" facilities where women can take advantage of inexpensive state-of-the-art detection equipment and the means for biopsy sampling of suspicious lesions.

For the present, we need to encourage women to participate in breast cancer detection programs. They need to be aware of the importance of the three complementary techniques for early detection — breast self exam, clinical breast exam by a health professional, and mammography. The efforts of the American Cancer Society and the generosity of the editor of the *North Carolina Medical Journal* in providing this forum should be acknowledged and appreciated. ■

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DESCRIPTION. INDERAL LA is formulated to provide a sustained release of propranolol hydrochloride. INDERAL LA is available as 60 mg, 80 mg, 120 mg, and 160 mg capsules.

CLINICAL PHARMACOLOGY. INDERAL is a nonselective, beta-adrenergic receptor-blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor-stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta-adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (60, 80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL Tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg-for-mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension; it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

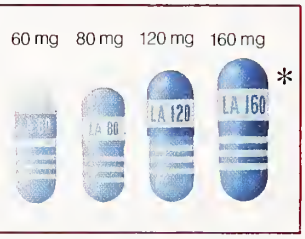
Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock; 2) sinus bradycardia and greater than first-degree block; 3) bronchial asthma; 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

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WARNINGS. CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following *abrupt* discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned, the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema) —PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, eg, dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta blockers should be used with caution in diabetic patients if a beta-blocking agent is required. Beta blockers may mask tachycardia occurring with hypoglycemia, but other manifestations such as dizziness and sweating may not be significantly affected. Following insulin-induced hypoglycemia, propranolol may cause a delay in the recovery of blood glucose to normal levels.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol may change thyroid function tests, increasing T_4 and reverse T_3, and decreasing T_3.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case, this resulted after an initial dose of 5 mg propranolol.

PRECAUTIONS. GENERAL: Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

CLINICAL LABORATORY TESTS: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Caution should be exercised when patients receiving a beta blocker are administered a calcium-channel-blocking drug, especially intravenous verapamil, for both agents may depress myocardial contractility or atrioventricular conduction. On rare occasions, the concomitant intravenous use of a beta blocker and verapamil has resulted in serious adverse reactions, especially in patients with severe cardiomyopathy, congestive heart failure or recent myocardial infarction.

Aluminum hydroxide gel greatly reduces intestinal absorption of propranolol.

Ethanol slows the rate of absorption of propranolol.

Phenytoin, phenobarbitone, and *rifampin* accelerate propranolol clearance.

Chlorpromazine, when used concomitantly with propranolol, results in increased plasma levels of both drugs.

Antipyrine and *lidocaine* have reduced clearance when used concomitantly with propranolol.

Thyroxine may result in a lower than expected T_3 concentration when used concomitantly with propranolol.

Cimetidine decreases the hepatic metabolism of propranolol, delaying elimination and increasing blood levels.

Theophylline clearance is reduced when used concomitantly with propranolol.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

PREGNANCY: Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

NURSING MOTHERS: INDERAL is excreted in human milk. Caution should be exercised when INDERAL (propranolol HCl) is administered to a nursing woman.

PEDIATRIC USE: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: Bradycardia; congestive heart failure; intensification of AV block; hypotension; paresthesia of hands; thrombocytopenic purpura; arterial insufficiency, usually of the Raynaud type.

Central Nervous System: Light-headedness; mental depression manifested by insomnia, lassitude, weakness, fatigue; reversible mental depression progressing to catatonia; visual disturbances; hallucinations; vivid dreams; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics. For immediate formulations, fatigue, lethargy, and vivid dreams appear dose related.

Gastrointestinal: Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: Pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory: Bronchospasm.

Hematologic: Agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: Alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily. If patients are switched from INDERAL Tablets to INDERAL LA Capsules, care should be taken to assure that the desired therapeutic effect is maintained. INDERAL LA should not be considered a simple mg-for-mg substitute for INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitration may be necessary, especially to maintain effectiveness at the end of the 24-hour dosing interval.

HYPERTENSION—*Dosage must be individualized.* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood-pressure control is achieved. The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage of 640 mg may be required. The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three- to seven-day intervals until optimal response is obtained. Although individual patients may respond at any dosage level, the average optimal dosage appears to be 160 mg once daily. In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

MIGRAINE—*Dosage must be individualized.* The initial oral dose is 80 mg INDERAL LA once daily. The usual effective dose range is 160-240 mg once daily. The dosage may be increased gradually to achieve optimal migraine prophylaxis. If a satisfactory response is not obtained within four to six weeks after reaching the maximal dose, INDERAL LA therapy should be discontinued. It may be advisable to withdraw the drug gradually over a period of several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use.

*The appearance of these capsules is a registered trademark of Ayerst Laboratories.

REFERENCES:

1. INDERAL LA National Compliance Evaluation Program. Data on file, Ayerst Laboratories.
2. Ravid M, Lang R, Jutrin I: The relative antihypertensive potency of propranolol, oxprenolol, atenolol, and metoprolol given once daily. *Arch Intern Med* 1985; 145:1321-1323.

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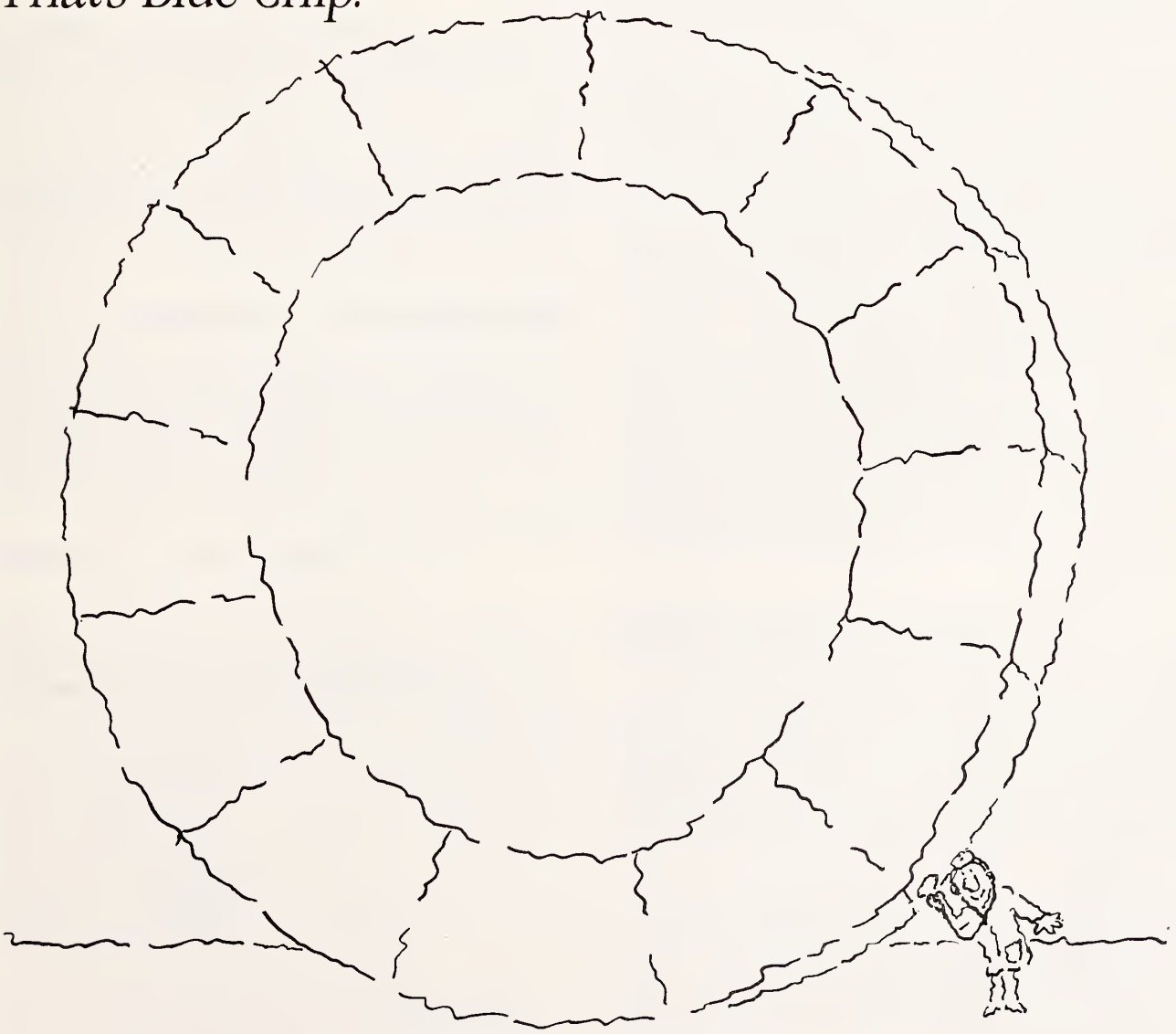
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Clinical Breast Examination in Breast Cancer Screening

Michael S. O'Malley, M.S.P.H., and
Suzanne W. Fletcher, M.D., M.Sc.

Though mammography, at least for older women, should be the primary screening maneuver for breast cancer, clinical breast examination (CBE) is the most common method. Combined with mammography, CBE can reduce breast cancer deaths by approximately one-third in women age 50 and older.[1] Clinical breast examination also independently contributes to breast cancer detection. In the Breast Cancer Detection Demonstration Project (BCDDP), approximately 9% of all cancers found were missed by mammography but identified by CBE.[2] Expert groups recommend annual breast cancer screening with CBE for women age 40 and older (table 1).[3-5]

Physicians reportedly perform CBE almost as frequently as expert groups have recommended. In a national survey by the American Cancer Society (ACS), 80% of primary care physicians said they followed the Society's guidelines for breast cancer screening with CBE.[6] In an earlier study in North Carolina, internists recorded performing CBE in 77% to 85% of women patients presenting for a periodic or general examination.[7]

Despite the reported frequent performance of CBE, physicians may lack confidence in their examination skills and their ability to detect cancerous lumps by palpation.[8] The sensitivity of clinical breast examination appears to be modest. In the BCDDP, estimated sensitivity was 45%, compared to 71% for mammography and 87% for mammography and CBE combined.[2,9] Similar results have been obtained from other studies, including one using manufactured silicone breast models to estimate lump detection abilities.[8,10]

Physicians also believe their examination skills should be improved.[8] Clinical breast examination sensitivity might be increased with improved technique. Using manufactured silicone breast models, researchers have determined that palpation can detect simulated lumps as small as 0.3 cm in diameter.[11] Yet, in the BCDDP, CBE identified only 45% of the infiltrating cancers less than 1 cm in diameter.[2]

Who Should Be Screened?

Three groups of asymptomatic women should receive regular screening with clinical breast examination: all women age 40 and older; women with a history of breast cancer; and women with a family history of breast cancer in a first-degree relative (mother or sister), especially if the cancer occurred premenopausally.

Table 1

Selected Expert Groups' Recommendations for Breast Cancer Screening with Clinical Breast Examination

Expert Group	*Recommendation for CBE Screening*
American Cancer Society[3]	Women age 20 to 40: every three years. Women age 40 to 49: yearly with mammography every one to two years. Women age 50 and older: yearly with mammography.
Canadian Task Force on the Periodic Health Examination[4]	Women age 40 to 49: yearly (on grounds of clinical prudence). Women age 50 and older: yearly with mammography.
US Preventive Services Task Force[5]	Women age 40 to 49: yearly (on grounds of clinical prudence). Women age 50 and older: yearly with mammography.

From the Department of Medicine, School of Medicine (Mr. O'Malley, Dr. Fletcher); the Department of Health Policy and Administration (Mr. O'Malley) and the Department of Epidemiology (Dr. Fletcher), School of Public Health; and the Lineberger Cancer Reasearch Center (Dr. Fletcher); University of North Carolina at Chapel Hill.

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Table 2

Estimated Number of Women to be Screened to Detect One Case of Breast Cancer, by Age of the Women*

Women's Age	*Estimated Number of Women To be Screened per Cancer Detected*
20-24	83,333
25-29	12,195
30-34	3,861
35-39	1,661
40-44	944
45-49	639
50-54	540
55-59	464
60-64	383
65-69	342
70-74	313
75-79	295

* Based on incidence data for breast cancer from the SEER Program, 1978-1981.[18]

Debate continues on whether any screening of women age 40 to 49 will save lives from breast cancer.[9] For reasons of clinical prudence, however, expert groups recommend yearly clinical breast examinations for women age 40 and older (table 1).[3-5]

For women under age 40, the American Cancer Society recommends exams every three years beginning at age 20, but other groups have pointed out that there is no evidence for this recommendation.[9] Also, breast cancer in young women is rare (table 2).

Examination Technique

The purpose of CBE in asymptomatic women is to discover breast cancers before they become visible upon inspection. Busy clinicians should, therefore, concentrate on careful palpation of the breasts. Visual inspection of the breasts while the patient assumes various positions is appropriate in symptomatic patients but probably is too time-consuming for routine screening.[12]

The breast should be made as flat as possible during the examination by having the patient lie on her contralateral hip and then rotate her shoulders into a supine position. The ipsilateral hand should be placed on her forehead. A folded towel or pillow under the scapula may help.

Each breast should be palpated using the pads (not tips) of the three middle fingers held together. Powder or lotion on the finger surfaces may make the examination easier. The fingers should move in small circles the size of the outer edge of a dime. At each point in the exam the circular motion should be performed using variable pressures (light, medium, and deep) to examine the entire breast volume.

The entire breast surface, including the "tail" in the upper outer quadrant, should be systematically examined (figure 1). A circular search pattern, starting at the nipple and covering the entire breast in ever-widening concentric circles, is often recommended. However, more thorough examinations have been done using vertical stripping.[13] In this search pattern one begins at the axillary line and examines up and down the breast in vertical strips (figure 1).

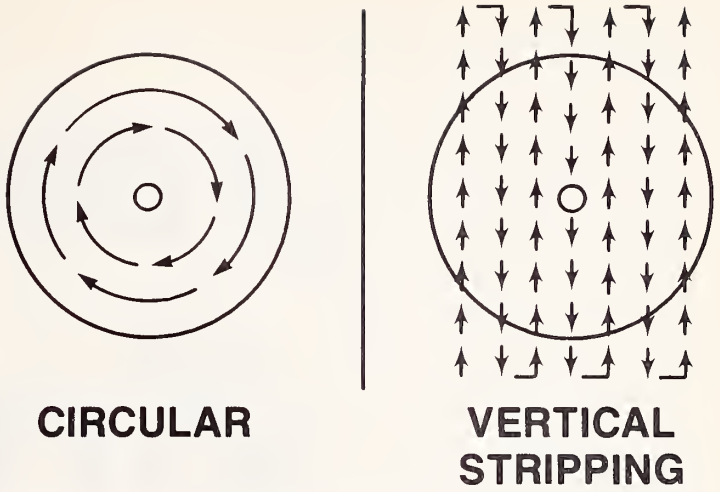


Figure 1. Two commonly recommended breast examination patterns: (1) circular pattern (shown schematically on the left) and (2) vertical stripping pattern (shown on the right). Studies of women performing breast self-examination suggest that women are more thorough and miss fewer areas of the breast using the vertical stripping pattern.

After examining the entire breast, one should squeeze the nipple gently to determine if there is any discharge. Finally, the axilla should be palpated.

Studies have shown a strong correlation between time spent examining the breast and lump detection.[9-10] Physicians should take the time to perform CBE thoroughly, rather than rushing the exam, as documented in observational studies.[14]

Significance of Findings

Distinguishing normal "ropy," "granular" or "pealike" lumps (most commonly felt in the periareolar area and in the upper outer quadrant) from abnormal lumps is difficult. Although breast cancers tend to be non-cystic, non-movable and irregular, benign lesions also share these characteristics.[15] Thus, CBE alone cannot distinguish cancerous from non-cancerous breast masses. Mammography, ultrasound, and needle aspiration can help.[16] It is also important to remember that a negative mammogram does not rule out cancer. Therefore, a strongly suspicious lump found during physical examination should be evaluated by more than just mammography.

Overall, the vast majority of breast lesions (80%) are benign, but the likelihood that a lump is cancerous increases with the age of the woman. While overall in the BCDDP 5.4 biopsies were done for every cancer found, the ratio fell from 16.4-to-1 among women age 35 to 39 to 3.2-to-1 for women 60 to 69.[2]

Screening in Everyday Practice

Remembering to do CBE and finding the time to perform it can be difficult in a busy office practice. Prompting, using manual flow sheets or computerized reminders, can help physicians remember to perform CBE at regular intervals.[17] Trained nurses may also do the examinations.

Screening may seem unrewarding because so many examinations must be done to find even one cancer. Based upon U.S. incidence data, overall only about one in every 1,100 women examined would have breast cancer.[18] However, the ratio changes dramatically as the age of the woman (and consequently her risk for breast cancer) increases, falling from about one in 83,000 for women 20 to 24, to one in 540 for women 50 to 54, and to one in 313 for women 70 to 74 (table 2). Thus, it is particularly important to emphasize screening among older women and those with a personal or family history of breast cancer, for these are the women most at risk for breast cancer. ■

References

1 Shapiro S, Venet W, Strax P, et al. Selection, follow-up and analysis in the health insurance plan (HIP) study, in Selection, follow-up and analysis in prospective studies: a workshop (monograph 67). Bethesda, MD: National Cancer Institute, 1985, pp 65-74.

2 Baker LH. Breast cancer detection demonstration project: five-year summary support. CA 1982;32:194-225.

3 Eddy DM. Guidelines for the cancer-related check-up: recommendations and rationale. CA 1980;30:194-240.

4 Canadian Task Force on the Periodic Health Examination: The periodic health examination. Can Med Assoc J 1986;134:721-9.

5 U.S. Preventive Services Task Force: Recommendations for breast cancer screening. JAMA 1987;257:2196.

6 American Cancer Society: Survey of physicians' attitudes and practices in early cancer detection. CA 1985;35:197-213.

7 Romm FJ, Fletcher SW, Hulka BS. The periodic health examination: Comparison of recommendations and internists' performance. Sou Med J 1981;74:265-71.

8 Fletcher SW, O'Malley MS, Bunce LA. Physicians' abilities to detect lumps in silicone breast models. JAMA 1985;253:2224-8.

9 O'Malley MS, Fletcher SW. Screening for breast cancer with breast self-examination. A critical review. JAMA 1987;257:2196-2203.

10 Hicks MJ, Davis JR, Layton JM, et al. Sensitivity of mammography and physical examination of the breast for detecting breast cancer. JAMA 1979;242:2080-3.

11 Pennypacker HS, Bloom HS, Criswell EL, et al. Toward an effective technology of instruction in breast self-examination. Int J Ment Health 1982;32:251-60.

12 Fletcher SW, O'Malley MS. Clinical breast examination. Hosp Pract 1986;21(5A): 80-9.

13 Saunders KJ, Pilgrim CA, Pennypacker HS. Increased proficiency of search in breast self-examination. Cancer 1986;58:2531-7.

14 Kahn KL, Goldberg RJ. Screening for breast cancer in the ambulatory setting, abstracted. Clin Res 1984;32:649A.

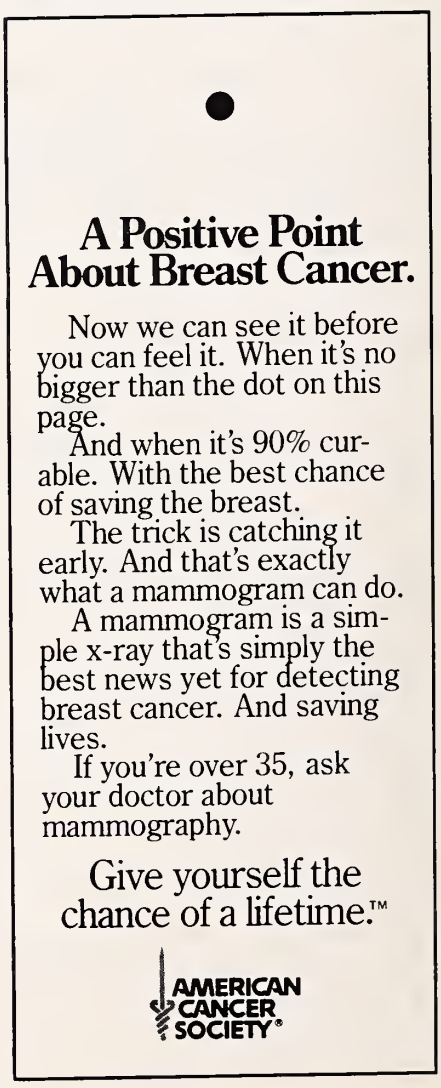
15 Venet L, Strax P, Venet W, Shapiro S. Adequacies and inadequacies of breast examination by physicians in mass screening. Cancer 1971;28:1546-51.

16 Mushlin AI. Diagnostic tests in breast cancer: clinical strategies based on diagnostic probabilities. Ann Intern Med 1985;103:79-85.

17 Knight BP, O'Malley MS, Fletcher SW. Physician acceptance of a computerized health maintenance prompting program. AM J Prev Med 1987;3:19-24.

18 Horm WJ, Asire AJ, Young JL, Jr., Pollacke ES. SEER Program: Cancer incidence and mortality in the United States 1973-1981. NIH Publication No. 85-1837. Bethesda, MD: National Cancer Institute, 1984.

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MICROBIOLOGY: The bactericidal activity of ceftriaxone results from inhibition of cell wall synthesis. Ceftriaxone has a high degree of stability in the presence of beta-lactamases, both penicillinases and cephalosporinases, of gram-negative and gram-positive bacteria. Ceftriaxone is usually active against the following microorganisms *in vitro* and in clinical infections (see Indications and Usage):

GRAM-NEGATIVE AEROBES: *Enterobacter aerogenes, Enterobacter cloacae, Escherichia coli, Haemophilus influenzae* (including ampicillin-resistant strains), *H. parainfluenzae, Klebsiella* species (including *K. pneumoniae*), *Neisseria gonorrhoeae* (including penicillinase and nonpenicillinase producing strains), *Neisseria meningitidis, Proteus mirabilis, Proteus vulgaris, Morganella morganii* and *Serratia marcescens*.

Note: Many strains of the above organisms that are multiply resistant to other antibiotics, *e.g.*, penicillins, cephalosporins and aminoglycosides, are susceptible to ceftriaxone sodium.

Ceftriaxone is also active against many strains of *Pseudomonas aeruginosa*.

GRAM-POSITIVE AEROBES: *Staphylococcus aureus* (including penicillinase-producing strains) and *Staphylococcus epidermidis* (Note: methicillin-resistant staphylococci are resistant to cephalosporins, including ceftriaxone), *Streptococcus pyogenes* (Group A beta-hemolytic streptococci), *Streptococcus agalactiae* (Group B streptococci) and *Streptococcus pneumoniae* (Note: Most strains of enterococci, *Streptococcus faecalis* and Group D streptococci are resistant.)

Ceftriaxone also demonstrates *in vitro* activity against the following microorganisms, although the clinical significance is unknown:

GRAM-NEGATIVE AEROBES: *Citrobacter freundii, Citrobacter diversus, Providencia* species (including *Providencia rettgeri*), *Salmonella* species (including *S. typhi*), *Shigella* species and *Acinetobacter calcoaceticus*.

ANAEROBES: *Bacteroides* species, *Clostridium* species (Note: most strains of *C. difficile* are resistant).

SUSCEPTIBILITY TESTING: Standard susceptibility disk method: Quantitative methods that require measurement of zone diameters give the most precise estimate of antibiotic susceptibility. One such procedure (Bauer AW, Kirby WMM, Sherris JC, Turck M: Antibiotic Susceptibility Testing by a Standardized Single Disk Method, *Am J Clin Pathol* 45: 493-496, 1966, Standardized Disk Susceptibility Test, *Federal Register* 39: 19182-19184, 1974, National Committee for Clinical Laboratory Standards, Approved Standard: ASM-2, Performance Standards for Antimicrobial Disk Susceptibility Tests, July 1975.) has been recommended for use with disks to test susceptibility to ceftriaxone.

Laboratory results of the standardized single-disk susceptibility test using a 30-mcg ceftriaxone disk should be interpreted according to the following three criteria:

1. Susceptible organisms produce zones of 18 mm or greater, indicating that the tested organism is likely to respond to therapy.
2. Organisms that produce zones of 14 to 17 mm are expected to be susceptible if a high dosage (not to exceed 4 gm per day) is used or if the infection is confined to tissues and fluids (*e.g.*, urine), in which high antibiotic levels are attained.
3. Resistant organisms produce zones of 13 mm or less, indicating that other therapy should be selected.

Organisms should be tested with the ceftriaxone disk, since ceftriaxone has been shown by *in vitro* tests to be active against certain strains found resistant to cephalosporin class disks.

Organisms having zones of less than 18 mm around the cephalothin disk are not necessarily of intermediate susceptibility or resistant to ceftriaxone.

Standardized procedures require use of control organisms. The 30-mcg ceftriaxone disk should give zone diameters between 29 and 35 mm, 22 and 28 mm and 17 and 23 mm for the reference strains *E. coli* ATCC 25922, *S. aureus* ATCC 25923 and *P. aeruginosa* ATCC 27853, respectively.

DILUTION TECHNIQUES: Based on the pharmacokinetic profile of ceftriaxone, a bacterial isolate may be considered susceptible if the MIC value for ceftriaxone is not more than 16 mcg/ml. Organisms are considered resistant to ceftriaxone if the MIC is equal to or greater than 64 mcg/ml. Organisms having an MIC value of less than 64 mcg/ml, but greater than 16 mcg/ml, are expected to be susceptible if a high dosage (not to exceed 4 gm per day) is used or if the infection is confined to tissues and fluids (*e.g.*, urine), in which high antibiotic levels are attained.

E. coli ATCC 25922, *S. aureus* ATCC 25923 and *P. aeruginosa* ATCC 27853 are also the recommended reference strains for controlling ceftriaxone dilution tests. Greater than 95% of MICs for the *E. coli* strain should fall within the range of 0.016 to 0.5 mcg/ml. The range for the *S. aureus* strain should be 1 to 2 mcg/ml, while for the *P. aeruginosa* strain the range should be 8 to 64 mcg/ml.

INDICATIONS AND USAGE: Rocephin is indicated for the treatment of the following infections when caused by susceptible organisms:

LOWER RESPIRATORY TRACT INFECTIONS caused by *Strep. pneumoniae, Streptococcus* species (excluding enterococci), *Staph. aureus, H. influenzae, H. parainfluenzae, Klebsiella* species (including *K. pneumoniae*), *E. coli, E. aerogenes, Proteus mirabilis* and *Serratia marcescens*.

SKIN AND SKIN STRUCTURE INFECTIONS caused by *Staph. aureus, Staph. epidermidis, Streptococcus* species (excluding enterococci), *E. cloacae, Klebsiella* species (including *K. pneumoniae*), *Proteus mirabilis* and *Pseudomonas aeruginosa*.

URINARY TRACT INFECTIONS (complicated and uncomplicated) caused by *E. coli, Proteus mirabilis, Proteus vulgaris, M. morganii* and *Klebsiella* species (including *K. pneumoniae*).

UNCOMPLICATED GONORRHEA (cervical/urethral and rectal) caused by *Neisseria gonorrhoeae*, including both penicillinase and nonpenicillinase producing strains.

PELVIC INFLAMMATORY DISEASE caused by *N. gonorrhoeae*.

BACTERIAL SEPTICEMIA caused by *Staph. aureus, Strep. pneumoniae, E. coli, H. influenzae* and *K. pneumoniae*.

BONE AND JOINT INFECTIONS caused by *Staph. aureus, Strep. pneumoniae, Streptococcus* species (excluding enterococci), *E. coli, P. mirabilis, K. pneumoniae* and *Enterobacter* species.

INTRA-ABDOMINAL INFECTIONS caused by *E. coli* and *K. pneumoniae*.

MENINGITIS caused by *H. influenzae, N. meningitidis* and *Strep. pneumoniae*. Ceftriaxone has also been used successfully in a limited number of cases of meningitis and shunt infections caused by *Staph. epidermidis* and *E. coli*.

PROPHYLAXIS: The administration of a single dose of ceftriaxone preoperatively may reduce the incidence of postoperative infections in patients undergoing coronary artery bypass surgery.

Although ceftriaxone has been shown to have been as effective as cefazolin in the prevention of infection following coronary artery bypass surgery, no placebo-controlled trials have been conducted to evaluate any cephalosporin antibiotic in the prevention of infection following coronary artery bypass surgery.

SUSCEPTIBILITY TESTING: Before instituting treatment with Rocephin, appropriate specimens should be obtained for isolation of the causative organism and for determination of its susceptibility to the drug. Therapy may be instituted prior to obtaining results of susceptibility testing.

CONTRAINDICATIONS: Rocephin is contraindicated in patients with known allergy to the cephalosporin class of antibiotics.

WARNINGS: BEFORE THERAPY WITH ROCEPHIN IS INSTITUTED, CAREFUL INQUIRY SHOULD BE MADE TO DETERMINE WHETHER THE PATIENT HAS HAD PREVIOUS HYPERSENSITIVITY REACTIONS TO CEPHALOSPORINS, PENICILLINS OR OTHER DRUGS. THIS PRODUCT SHOULD BE GIVEN CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. ANTIBIOTICS SHOULD BE ADMINISTERED WITH CAUTION TO ANY PATIENT WHO HAS DEMONSTRATED SOME FORM OF ALLERGY, PARTICULARLY TO DRUGS. SERIOUS ACUTE HYPERSENSITIVITY REACTIONS MAY REQUIRE THE USE OF SUBCUTANEOUS EPINEPHRINE AND OTHER EMERGENCY MEASURES.

Pseudomembranous colitis has been reported with the use of cephalosporins (and other broad-spectrum antibiotics), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with antibiotic use.

ROCEPHIN® (ceftriaxone sodium/Roche)

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis. Cholestyramine and colestipol resins have been shown to bind to the toxin *in vitro*.

Mild cases of colitis respond to drug discontinuance alone. Moderate to severe cases should be managed with fluid, electrolyte and protein supplementation as indicated.

When the colitis is not relieved by drug discontinuance or when it is severe, oral vancomycin is the treatment of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should also be considered.

PRECAUTIONS: *GENERAL*: Although transient elevations of BUN and serum creatinine have been observed, at the recommended dosages, the nephrotoxic potential of Rocephin is similar to that of other cephalosporins.

Ceftriaxone is excreted via both biliary and renal excretion (see Clinical Pharmacology). Therefore, patients with renal failure normally require no adjustment in dosage when usual doses of Rocephin are administered, but concentrations of drug in the serum should be monitored periodically. If evidence of accumulation exists, dosage should be decreased accordingly.

Dosage adjustments should not be necessary in patients with hepatic dysfunction, however, in patients with both hepatic dysfunction and significant renal disease, Rocephin dosage should not exceed 2 gm daily without close monitoring of serum concentrations.

Alterations in prothrombin times have occurred rarely in patients treated with Rocephin. Patients with impaired vitamin K synthesis or low vitamin K stores (*e.g.*, chronic hepatic disease and malnutrition) may require monitoring of prothrombin time during Rocephin treatment. Vitamin K administration (10 mg weekly) may be necessary if the prothrombin time is prolonged before or during therapy.

Prolonged use of Rocephin may result in overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Rocephin should be prescribed with caution in individuals with a history of gastrointestinal disease, especially colitis.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY: Carcinogenesis: Considering the maximum duration of treatment and the class of the compound, carcinogenicity studies with ceftriaxone in animals have not been performed. The maximum duration of animal toxicity studies was six months.

Mutagenesis: Genetic toxicology tests included the Ames test, a micronucleus test and a test for chromosomal aberrations in human lymphocytes cultured *in vitro* with ceftriaxone. Ceftriaxone showed no potential for mutagenic activity in these studies.

Impairment of Fertility: Ceftriaxone produced no impairment of fertility when given intravenously to rats at daily doses up to 586 mg/kg/day, approximately 20 times the recommended clinical dose of 2 gm/day.

PREGNANCY: Teratogenic Effects: Pregnancy Category B: Reproductive studies have been performed in mice and rats at doses up to 20 times the usual human dose and have no evidence of embryotoxicity, fetotoxicity or teratogenicity. In primates, no embryotoxicity or teratogenicity was demonstrated at a dose approximately three times the human dose.

There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproductive studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nonteratogenic Effects: In rats, in the Segment I (fertility and general reproduction) and Segment III (perinatal and postnatal) studies with intravenously administered ceftriaxone, no adverse effects were noted on various reproductive parameters during gestation and lactation, including postnatal growth, functional behavior and reproductive ability of the offspring, at doses of 586 mg/kg/day or less.

NURSING MOTHERS: Low concentrations of ceftriaxone are excreted in human milk. Caution should be exercised when Rocephin is administered to a nursing woman.

PEDIATRIC USE: Safety and effectiveness of Rocephin in neonates, infants and children have been established for the dosages described in the Dosage and Administration section.

ADVERSE REACTIONS: Rocephin is generally well tolerated. In clinical trials, the following adverse reactions, which were considered to be related to Rocephin therapy or of uncertain etiology, were observed:

LOCAL REACTIONS—pain, induration or tenderness at the site of injection (1%). Less frequently reported (less than 1%) was phlebitis after I.V. administration.

HYPERSENSITIVITY—rash (1.7%). Less frequently reported (less than 1%) were pruritus, fever or chills.

HEMATOLOGIC—eosinophilia (6%), thrombocytosis (5.1%) and leukopenia (2.1%). Less frequently reported (less than 1%) were anemia, neutropenia, lymphopenia, thrombocytopenia and prolongation of the prothrombin time.

GASTROINTESTINAL—diarrhea (2.7%). Less frequently reported (less than 1%) were nausea or vomiting, and dysgeusia.

HEPATIC—elevations of SGOT (3.1%) or SGPT (3.3%). Less frequently reported (less than 1%) were elevations of alkaline phosphatase and bilirubin.

RENAL—elevations of the BUN (1.2%). Less frequently reported (less than 1%) were elevations of creatinine and the presence of casts in the urine.

CENTRAL NERVOUS SYSTEM—headache or dizziness were reported occasionally (less than 1%).

GENITOURINARY—moniliasis or vaginitis were reported occasionally (less than 1%).

MISCELLANEOUS—diaphoresis and flushing were reported occasionally (less than 1%).

Other rarely observed adverse reactions (less than 0.1%) include leukocytosis, lymphocytosis, monocytosis, basophilia, a decrease in the prothrombin time, jaundice, glycosuria, hematuria, bronchospasm, serum sickness, abdominal pain, colitis, flatulence, dyspepsia, palpitations and epistaxis.

DOSAGE AND ADMINISTRATION: Rocephin may be administered intravenously or intramuscularly. The usual adult daily dose is 1 to 2 gm given once a day (or in equally divided doses twice a day) depending on the type and severity of the infection. The total daily dose should not exceed 4 grams.

For the treatment of serious miscellaneous infections in children, other than meningitis, the recommended total daily dose is 50 to 75 mg/kg (not to exceed 2 grams), given in divided doses every 12 hours. Generally, Rocephin therapy should be continued for at least two days after the signs and symptoms of infection have disappeared. The usual duration is 4 to 14 days; in complicated infections longer therapy may be required.

In the treatment of meningitis, a daily dose of 100 mg/kg (not to exceed 4 grams), given in divided doses every 12 hours, should be administered with or without a loading dose of 75 mg/kg.

For the treatment of uncomplicated gonococcal infections, a single intramuscular dose of 250 mg is recommended.

For preoperative use (surgical prophylaxis), a single dose of 1 gm administered ½ to 2 hours before surgery is recommended.

When treating infections caused by *Streptococcus pyogenes*, therapy should be continued for at least ten days.

No dosage adjustment is necessary for patients with impairment of renal or hepatic function, however, blood levels should be monitored in patients with severe renal impairment (*e.g.*, dialysis patients) and in patients with both renal and hepatic dysfunctions.

HOW SUPPLIED: Rocephin (ceftriaxone sodium/Roche) is supplied as a sterile crystalline powder in glass vials and piggyback bottles. The following packages are available:

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Vials containing 500 mg equivalent of ceftriaxone: Boxes of 10 (NDC 0004-1963-01).
Vials containing 1 gm equivalent of ceftriaxone: Boxes of 10 (NDC 0004-1964-01).
Piggyback bottles containing 1 gm equivalent of ceftriaxone: Boxes of 10 (NDC 0004-1964-03).
Vials containing 2 gm equivalent of ceftriaxone: Boxes of 10 (NDC 0004-1965-01).
Piggyback bottles containing 2 gm equivalent of ceftriaxone: Boxes of 10 (NDC 0004-1965-03).
Bulk pharmacy containers, containing 10 gm equivalent of ceftriaxone: Boxes of 1 (NDC 0004-1971-01).
NOT FOR DIRECT ADMINISTRATION.

Roche Laboratories
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Nutley, New Jersey 07110



References:

1. Data on file, Hoffmann-La Roche Inc.
2. Patel IH, Kaplan SA: *Am J Med* 77:17-25, Oct 19, 1984.
3. Richards DM, *et al*: *Drugs* 27:469-527, 1984.
4. Cleeland R, Squires E: *Am J Med* 77:3-11, Oct 19, 1984.
5. Tanner DJ, Nazarian MQ: *Am J Med* 77:104-111, Oct 19, 1984.

Breast Cancer Facts: A Look at Mammography

Margaret L. Bertrand, M.D., Kaja Heater, M.D., and Carlton Jenkins, M.D.

Although the breast has always been a subject of attention by both sexes, it has never had so much press as in the last year. Most of the articles concern the early diagnosis, treatment, and possible causes of breast cancer. With the increased publicity, many questions are posed by physicians and patients regarding appropriate affordable and safe methods of breast cancer detection.

Unfortunately, there is no prevention for breast cancer. In fact, the incidence of breast cancer appears to be on the rise, now striking one in 10 American women. For years it has been the leading female cancer killer. Despite advances in surgery and chemotherapy, there has been little change in the mortality rate of breast cancer; in fact, death rates among women age 50 and older have increased in the last decade. Since no simple methods of prevention or cure are on the horizon, the primary hope for improving breast cancer survival lies in early detection. Early detection also gives women surgical alternatives to mastectomy.

The Importance of Early Detection

An estimated 130,000 new cases of invasive breast cancer will have been diagnosed among American women in 1987, and more than 5,000 cases of in situ cancer are expected. If the current survival rates apply, at least 35% of the women with invasive tumors will ultimately die of their disease. The primary determinants of long-term prognosis are the size at discovery and whether or not axillary lymph nodes are involved. The 75% of breast cancers which are now found by the patient herself are already 2-3 cm in size, and axillary lymph node metastases are present in approximately half of the cases. "Minimal breast cancer" (invasive carcinoma confined to 5 mm or in situ carcinoma) is associated with a 92% 20-year survival, compared to breast cancer 1 cm or greater in size without lymph node involvement, which is associated with a 62% 20-year survival. If axillary lymph nodes are involved, the 20-year survival drops drastically to 23%.

From Bertrand Diagnostic Imaging & Breast Center, Inc., and Department of Radiology, Duke University Medical Center, Durham 27710.

Methods of Detection: Mammography

Breast self-examination and physical examination are extremely important and should be encouraged. It is time, however, to recognize that x-ray mammography may be our strongest tool in locating breast cancers in their "curable" minimal stage.

Two major studies have clearly demonstrated the benefits of screening examinations. The Health Insurance Plan of Greater New York Screening Project (HIP), a randomized clinical trial conducted between 1963 and 1970, proved the benefits of early detection of breast cancer by demonstrating a 30% mortality decrease over nine years in screened women over the age of 50. The Breast Cancer Detection Demonstration Project (BCDDP) conducted in the 1970s, although not a controlled study, demonstrated the importance of mammography in detecting early cancers. Fifty-seven percent of in situ carcinoma and invasive carcinomas less than 1 cm were detected by mammography alone, compared to the 6% detected by physical examination alone. Of cancers with negative axillary nodes, 60% were detected only by mammography. Of infiltrating carcinomas greater than 1 cm, 34% were found by mammography alone. An ongoing randomized Swedish trial and a Dutch case-control study have preliminary results that also suggest a 40-50% mortality reduction in screened patients over the age of 50.

The value of screening mammography in decreasing mortality for women under the age of 50 is still in debate. The HIP study did not show a significant decrease in mortality in the 40-50 age range. Based on the number of compliant participants in this age group, however, and the state of the art of mammography at the time, this study should not be considered optimal for evaluating the efficacy of mammography for women under the age of 50.

The BCDDP was not designed to collect mortality data. It did demonstrate the ability of mammography to diagnose minimal and invasive cancers which were non-palpable (35%) in women under the age of 50. The BCDDP also found a higher percentage of minimal and small cancers, which should be an indication of the improvement in mammographic technique between the 1960s and the 1970s.

Current Use of Mammography

The American Cancer Society and the National Cancer Institute, two major organizations concerned with cancer prevention in the United States, have somewhat different mammographic guidelines for asymptomatic women. For women 50 and over, both groups recommend annual or routine screening, combining both mammography and physical examination. The recommendations of the National Cancer Institute for younger women restrict mammographic screening to those at high risk. On the other hand, the American Cancer Society recommends a baseline mammogram for all asymptomatic women age 35 to 40 and screening every one to two years for asymptomatic women age 40 to 49. The American College of Radiology makes recommendations similar to those of the American Cancer Society. Mammography should generally not be performed in women under age 30.

Interpretation of the Mammogram Report

Findings on mammographic accuracy vary between 85% and 94% — unfortunately not perfect. Dense breast tissue, whether in a young glandular breast or a dystrophic breast, limits the mammographic detection rate. Clinicians must continue to interpret a "negative" mammogram report in the context of their clinical findings. Consulting the radiologist, possibly adding mass-specific views or ultrasound, may help the primary care physician or surgeon in making the decision to biopsy or not to biopsy.

If the National Cancer Institute or American Cancer Society guidelines had been adopted by the medical and lay communities, one would expect routine use of mammography in the 50-and-older age category. Data indicate, however, that only 15-20% of American women age 50 and over have had a mammogram and that a much smaller percentage are being examined regularly. There is a direct correlation between mammogram usage and patient demographic factors such as education, income, and urban versus suburban residence. Increased use is associated with increased knowledge of breast cancer detection and treatment procedures.

Among physicians, there seems to be a wide discrepancy between belief in the importance of mammography and utilization of this procedure. Although 41% of physicians surveyed by the American Cancer Society in 1984 "agreed completely" with the guidelines for screening, only 11% said they observed the guidelines. Gynecologists were more committed to mammography than were internists and general practitioners.

Deterrents to the Use of Mammography

Factors cited by physicians as deterrents to recommending routine mammography screening included radiation risks, unnecessary biopsies, financial considerations, confusion regarding age for screening, and doubts about the relative value of mammography.

Over the last ten years, with continued technological improvements in equipment and film, not only has the ability to detect breast cancers increased, but the average mid-breast dose of radiation has decreased considerably. In the 1960s, the mean skin dosage was 7.7 rads. Now, in most instances, the average surface exposure is 0.47 rads for film screen units and 1.2 rads for xeromammography. The significant comparison exposure is computed for mid-breast dose, which is 0.035 rads for film and 0.36 rads for xeromammography. The American Cancer Society has concluded that "modern technology has reduced the radiation exposure of low-dose mammography to the point of negligible risk, if risk exists at all, and has increased its diagnostic capabilities at the same time."

Screening mammography is advocated to detect breast cancer at an earlier stage than it would be detected by clinical examination alone. Mammography also helps in the interpretation of palpable findings. Most medical centers which are reporting biopsy results have an average of one in four positive lesions. Some extremely aggressive programs have reported as few as one in 13 positive biopsies. In North Carolina, most of the screening programs find that their detection rates fall between one in four and one in six positive cases per recommended biopsy. One must consider that taking advantage of the early detection ability of mammography entails some unnecessary biopsies, but this must also be compared with the number of unnecessary biopsies that are performed on clincial evaluation alone. To make an impact on screening, one must be somewhat aggressive in biopsy recommendation.

Until recently, the economics of mammography have been a major deterrent to physicians in recommending routine screening to any but their highest-risk patients. At present, several insurance companies cover the cost of mammography only for symptomatic women, and mammography is not authorized by Medicare for routine screening purposes. The American College of Radiology and the American Cancer Society have urged radiologists nationally to lower mammographic costs to encourage better utilization. The last two

years have seen a great reduction in the cost of mammography in North Carolina. Many areas charge less than $60 and some even as little as $29. Decreasing cost is possible with large volume screening.

The campaign of the American Cancer Society to increase breast cancer detection awareness is directed not only to the public, but also to physicians. Doctors' attitudes and practices will need to change considerably regarding routine mammographic screening if there is to be a significant decrease in mortality from breast cancer over the next several decades. The prospects for change should be excellent based on technical advances, cost reduction, and risk reduction. The breast is beautiful. Making it an object of critical medical attention may save many lives. ■

References

1 Howard J. Using mammography for cancer control: an unrealized potential. CA 1987;37:33-47.

2 Radiologic clinics of North America, March 1983.

3 Breast carcinoma: current diagnosis and treatment, Feig SA and McLelland R (eds). Masson Publishing, 1983.

4 Williams SM, Kaplan PA, Petersen JC, and Lieberman RP. Mammography in women under age 30: is there clinical benefit? Radiology 1986;161:49-51.

5 Feig SA. Radiation risk from mammography: is it clinically significant? ASR 1984;143:469-75.



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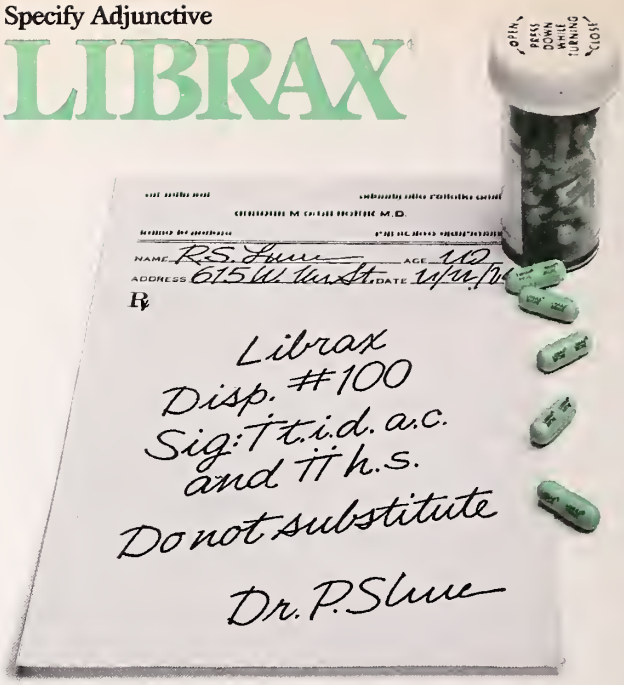
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As with all anticholinergics, inhibition of lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship not established.

Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated; avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered: isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction; changes in EEG patterns may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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*Librax has been evaluated as possibly effective as adjunctive therapy in the treatment of peptic ulcer and the irritable bowel syndrome.
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Seated, left to right, Neil P. Dubner, M.D., Medical Director; D. Wilfred Abse, M.D.; James K. Barnes, M.D.; Ronald L. Myers, M.D. Standing, left to right, Orren LeRoyce Royal, M.D.; Morgan E. Scott, M.D.; Don L. Weston, M.D.; Arthur E. Kelley, M.D.; G. Paul Hlusko, M.D.; Hal G. Gillespie, M.D.; Basil E. Roebuck, M.D.

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"We love the training program. And the updates they do really help," Ms. Horne said. When a practice brings in over 200 patients a day as this one does, the business office has to run smoothly. "Medic does everything we need. It's great."

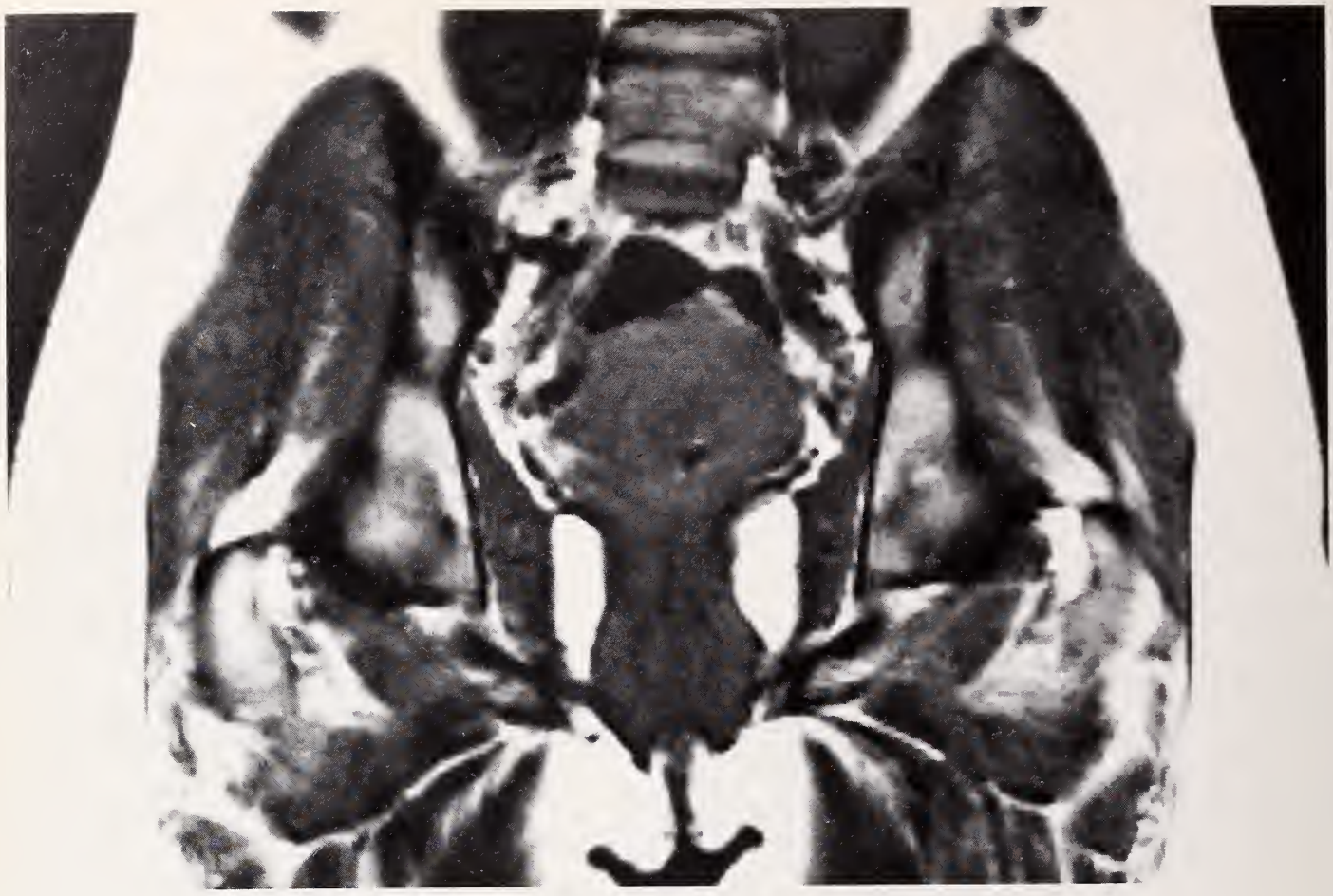
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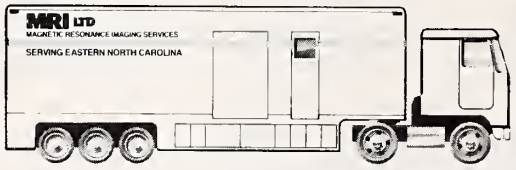
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Lice-Free Patients 14 Days Post-Treatment After Single Application.[1,2]

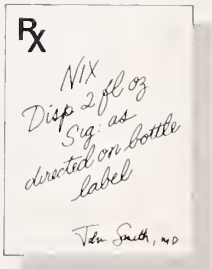
Minimal scalp absorption, no CNS toxicity as reported with lindane overexposure.[3]

Rx:

Nix® FOR LICE®

CREME RINSE

permethrin 1%



Wellcome

Burroughs Wellcome Co.
3030 Cornwallis Road
Research Triangle Park, NC 27709

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Please see following page for brief summary of prescribing information.

Nix® FOR LICE

CREME RINSE

permethrin 1%

PEDICULICIDAL/OVICIDAL ACTIVITIES: *In vitro* data indicate that permethrin has pediculicidal and ovicidal activity against *Pediculus humanus* var. *capitis*. The high cure rate (97-99%) of Nix in patients with head lice demonstrated at 14 days following a single application is attributable to a combination of its pediculicidal and ovicidal activities and its residual persistence on the hair which may also prevent reinfestation.

INDICATIONS AND USAGE: Nix is indicated for the single-application treatment of infestation with *Pediculus humanus* var. *capitis* (the head louse) and its nits (eggs). Retreatment for recurrences is required in less than 1% of patients since the ovicidal activity may be supplemented by residual persistence in the hair. If live lice are observed after at least seven days following the initial application, a second application can be given.

CONTRAINDICATIONS: Nix is contraindicated in patients with known hypersensitivity to any of its components, to any synthetic pyrethroid or pyrethrin, or to chrysanthemums.

WARNING: If hypersensitivity to Nix occurs, discontinue use.

PRECAUTIONS:

General: Head lice infestation is often accompanied by pruritus, erythema, and edema. Treatment with Nix may temporarily exacerbate these conditions.

Information for Patients: Patients with head lice should be advised that itching, redness, or swelling of the scalp may occur after application of Nix. If irritation persists, they should consult their physician. Nix is not irritating to the eyes; however, patients should be advised to avoid contact with eyes during application and to flush with water immediately if Nix gets in the eyes. In order to prevent accidental ingestion by children, the remaining contents of Nix should be discarded after use.

Combing of nits following treatment with Nix is not necessary for effective treatment. However, patients may do so for cosmetic or other reasons. The nits are easily combed from the hair treated with Nix after drying.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Six carcinogenicity bioassays were evaluated with permethrin, three each in rats and mice. No tumorigenicity was seen in the rat studies. However, species-specific increases in pulmonary adenomas, a common benign tumor of mice of high spontaneous background incidence, were seen in the three mouse studies. In one of these studies there was an increased incidence of pulmonary alveolar-cell carcinomas and benign liver adenomas only in female mice when permethrin was given in their food at a concentration of 5000 ppm. Mutagenicity assays, which give useful correlative data for interpreting results from carcinogenicity bioassays in rodents, were negative. Permethrin showed no evidence of mutagenic potential in a battery of *in vitro* and *in vivo* genetic toxicity studies.

Permethrin did not have any adverse effect on reproductive function at a dose of 180 mg/kg/day orally in a three-generation rat study.

Pregnancy: ***Teratogenic Effects:*** Pregnancy Category B. Reproduction studies have been performed in mice, rats, and rabbits (200-400 mg/kg/day orally) and have revealed no evidence of impaired fertility or harm to the fetus due to permethrin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk and because of the evidence for tumorigenic potential of permethrin in animal studies, consideration should be given to discontinuing nursing temporarily or withholding the drug while the mother is nursing.

Pediatric Use: Nix is safe and effective in children two years of age and older. Safety and effectiveness in children less than two years of age have not been established.

ADVERSE REACTIONS: The most frequent adverse reaction to Nix is pruritus. This is usually a consequence of head lice infestation itself, but may be temporarily aggravated following treatment with Nix. 5.9% of patients in clinical studies experienced mild temporary itching; 3.4% experienced mild transient burning/stinging, tingling, numbness, or scalp discomfort; and 2.1% experienced mild transient erythema, edema, or rash of the scalp.

DOSAGE AND ADMINISTRATION:

Adults and Children: Nix is intended for use after the hair has been washed with shampoo, rinsed with water and towel dried. Apply a sufficient volume of Nix to saturate the hair and scalp. Nix should remain on the hair for 10 minutes before being rinsed off with water. A single treatment is sufficient to eliminate head lice infestation. Combing of nits is not required for therapeutic efficacy, but may be done for cosmetic or other reasons.

SHAKE WELL BEFORE USING.

HOW SUPPLIED: Nix (Permethrin) 1% (wt./wt.) Creme Rinse is supplied in plastic squeeze bottles that contain 2 fl. oz. weighing 56 g. (NDC-0081-0780-81)

Store at 15°-25°C (59°-77°F).

1 DiNapoli J, Austin R, Englender S, et al: Eradication of lice with a single treatment (unpublished data, 1987). 2 Taplin D, Meinking T, Castillero P, et al: Permethrin 1% creme rinse for the treatment of pediculus humanus var capitis infestation. *Pediatr Dermatol* 1986; 3,4:344-348. 3 Davies J, Dedhia H, Morgade C, et al: Lindane poisonings. *Arch Dermatol* 1983; 119:142-144.

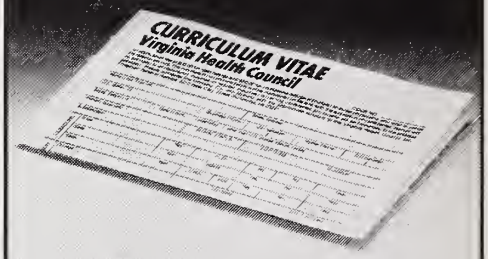
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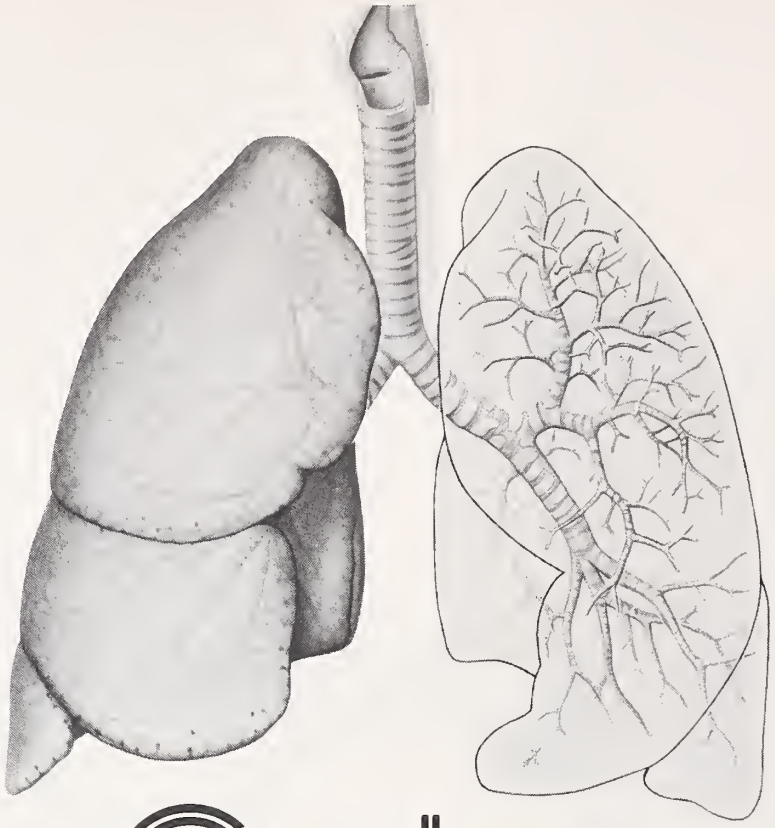
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J-6138 January 1986

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Ceclor®
cefaclor

250-mg Pulvules® t.i.d. offers effectiveness against the major causes of bacterial bronchitis

Haemophilus influenzae, Streptococcus pneumoniae
(ampicillin-susceptible and ampicillin-resistant)

Note: Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

Ceclor® (cefaclor)

Summary. Consult the package literature for prescribing information.

Indications: Lower respiratory infections, including pneumonia, caused by susceptible strains of *Streptococcus pneumoniae, Haemophilus influenzae,* and *Streptococcus pyogenes* (group A β-hemolytic streptococci).

Contraindication:
Known allergy to cephalosporins.

Warnings:
CECLOR SHOULO 8E AOMINISTEREO CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUOE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:
- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)
Therapy-related adverse reactions are uncommon. Those reported include:
- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, and serum-sickness-like reactions that have included erythema multiforme [rarely, Stevens-Johnson syndrome] or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever): 1.5%; usually subside within a few days after cessation of therapy. Serum-sickness-like reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%; and, rarely, thrombocytopenia.

Abnormalities in laboratory results of uncertain etiology
- Slight elevations in hepatic enzymes.
- Transient fluctuations in leukocyte count (especially in infants and children).
- Abnormal urinalysis; elevations in BUN or serum creatinine.
- Positive direct Coombs' test.
- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest® tablets but not with Tes-Tape® (glucose enzymatic test strip, Lilly).

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NORTH CAROLINA MEDICAL JOURNAL

For Patients

VOLUME 48/NUMBER 10/OCTOBER 1987

Breast Cancer

Early Detection May Mean Cure

MARGARET L. BERTRAND, M.D.

Breast cancer is the number-one female cancer, now striking nearly one out of every ten American women. Despite advances in surgery and chemotherapy, the death rate has changed little over the last forty years.

Because there is no known prevention of breast cancer, emphasis must be placed on detecting it early. At this stage, breast cancer is highly treatable and in many instances is associated with normal life expectancy. The earlier breast cancer is discovered, the more options a woman has about surgery. Depending on size and location of the tumor, removal of the breast (mastectomy) may not be necessary. Lesser surgery combined with radiation therapy may be recommended instead.

Defense against breast cancer involves a three-part program which each woman should maintain throughout her life: breast self-examination, routine physician breast physical, and mammography (breast x-ray).

Breast Self-Examination

Breast self-examination should become a habit practiced once a month. Women need to check themselves when they are least likely to be engorged; for menstruating women, one week after their period begins, and for women on replacement hormone therapy, the first day of their estrogen medication. The exam should include inspection in front of a mirror and palpation lying down and sitting or standing. Detailed information on this procedure is available free from the American Cancer Society (see the paper on breast self-examination in this section of the *Journal*).

There is evidence that the more experienced a woman is in self-examination, the smaller the tumor she is capable of feeling. Women 20 years of age and older should perform breast self-examination every month.

Physical Examination

Women age 20 to 40 should have a physical examination of the breasts every three years, and women over 40 should have a physical examination of the breasts every year. This can often be combined with a gynecological exam or regular check-up.

Mammography

Mammography is an x-ray of the breast which is capable of detecting many breast cancers two to three years earlier than they can be felt by patients or physicians.

Director of Bertrand Diagnostic Imaging & Breast Center, Inc.; Associate Professor of Radiology, Duke University Medical Center, Durham 27710.

The size of a breast cancer at discovery, and whether or not nearby lymph nodes are involved, are two of the main determinants of survival. When diagnosed at 5 mm (the size of a pea), the five-year survival rate is 98% and the 20-year survival rate is 93%. Most breast cancers (75%) are found by the woman herself, with an average size of 2-3 cm (the size of a pecan). At this stage, approximately half of the cancers have already spread to lymph nodes. Even without lymph node spread, the 20-year survival rate is only 62%, but once lymph nodes are involved, the 20-year survival rate is less than 25%.

Mammography is the most sensitive of the tests available in detecting breast cancer, with an 85-90% detection rate. Not only is mammography safe and accurate, but it is a proven life-saver based on three major studies. Two of these, one carried out in New York City in the 1960s and the other more recently in Sweden, reported 30-40% fewer deaths among women over 50 who had routine breast x-rays along with their annual physical exams. A third study, organized jointly by the National Cancer Institute and the American Cancer Society, demonstrated that 35.4% of breast cancers detected in women under 50 were found by mammography alone; and in areas where follow-up data are available, all of the women in this study whose breast cancers had been identified on mammography were alive five years after diagnosis. Because of these encouraging results, the American College of Radiology and the American Cancer Society have issued a set of recommendations for the routine use of mammography.

It is important for all women to be aware of their personal risk factors for developing breast cancer. Until medical science develops a method of prevention, success in early detection of breast cancer is based on an aggressive three-part program of breast self-examination, physician breast exam, and x-ray mammography. ■

WHO IS AT RISK FOR BREAST CANCER?

- All women are at risk. Only 1% of breast cancers occur in men. Seventy-five percent of women who get breast cancer have no risk factors other than being female.
- The risk increases with age. Two-thirds of breast cancers occur over age 50, but, sadly, 12% of breast cancer occurs under age 40.
- A personal history of breast cancer increases the risk for a second breast cancer to one in six.
- Family history is a strong risk factor if mother or sister has had a breast cancer before menopause. The risk is exceedingly high if these relatives have had breast cancer in both breasts. Of much less risk is a close relative having a breast cancer after menopause. Only if there are several relatives with breast cancer on the father's side of the family is that considered a significant risk.
- Other risk factors include never having had children, having had a first baby after age 35, early menarche, and late menopause.

WHO SHOULD HAVE A MAMMOGRAM?

As currently recommended by the American College of Radiology and the American Cancer Society for asymptomatic women:

- Age 40-49, a mammogram every one to two years
- Age 50 and over, a mammogram every year

Because each woman's breast x-ray is different in its appearance, unique only to her (like a fingerprint), many physicians urge their patients to have their first mammogram between age 35 and 39 to establish their baseline normal. All future studies (when the risk for breast cancer is higher) will be compared to this baseline.

Women at high risk should consult their personal physician because it may be necessary to begin screening at a younger age.

Today only 5-15% of women in the recommended age category for screening are getting their routine mammography. If your physician has not already recommended this test, ask about it soon.

HOW IS MAMMOGRAPHY PERFORMED?

The standard mammographic procedure is two x-ray views of each breast, one from the side and one from above.

To increase accuracy of detection, and to decrease radiation dose, adaequate compression is necessary. This may be slightly uncomfortable, but usually is not painful if performed at the same time of the cycle that breast self-examination is suggested.

IS MAMMOGRAPHY SAFE?

Only a few years ago, doctors were fiercely debating whether this breast x-ray might cause breast cancer. Fortunately, now that these x-rays deliver one-tenth the radiation of former techniques, the controversy has been laid to rest. Mammography is now thought to pose virtually no increased risk for developing breast cancer.

In choosing where you will have this x-ray examination, a few important questions should be asked:

- Is the equipment specifically designed for mammography?
- How much radiation is used in each x-ray? (If the answer is more than 1 rad, you might consider consulting another clinic.)
- Is the mammogram read by a *radiologist* certified by the American Board of Radiology, and is the radiologist experienced in interpreting mammograms?

WHERE IS MAMMOGRAPHY PERFORMED AND HOW MUCH DOES IT COST?

In North Carolina, there are several free-standing breast centers, most of them associated with outpatient radiology centers. Additionally, mammography is performed in most hospitals.

In this state, most mammography is priced at less than $100, and in some areas may be as low as $29. Often, routine mammography (performed in patients without symptoms) may not be covered by insurance and is not covered by Medicare.

Breast Self Examination

Early Detection For Breast Cancer

ANNIE HAYES, R.N., M.P.H.

The good news is that breast cancer can be cured, if it is detected and treated early. If you are a woman, do you do breast self exam (BSE) monthly? If you do, congratulations! You are among the 27% of American women who are doing BSE regularly, once a month.

The best weapon against breast cancer is early detection. By doing BSE, women detect 95% of cancers of the breast. But let me reassure you that most breast lumps are not cancer. After investigation, only two out of 10 breast lumps turn out to be cancer.

Today breast cancer is discussed openly. Women are putting aside their fears about breast cancer and asking questions in order to know as much as they possibly can about how to protect themselves.

What are the facts?

Breast cancer is the number one killer among women age 35 to 54. About one out of every 10 women will develop breast cancer sometime during her lifetime. An estimated 130,000 new cases will have been diagnosed in the United States in 1987 and 41,000 women are expected to die of breast cancer.

What are the warning signals?

Breast changes that *persist,* such as a lump, thickening, distortion, retraction, or scaliness of the nipple, nipple discharge, pain or tenderness, are all causes for concern and should be checked out by your doctor.

Public Health Nursing Consultant, North Carolina Department of Human Resources, Division of Health Services, Adult Health Services Section, Raleigh 27602-2091.

Remember, *most* breast conditions are *not* cancer, but only a physician can make a diagnosis.

What are the risk factors?

Age is the single most important risk factor. Breast cancer rarely occurs in women under age 35. Women at higher risk are over age 50; have personal or family history of breast cancer; have never given birth; or have their first child after age 30.

According to Dr. Susan Love, Director of the Breast Clinic at Beth Israel Hospital in Boston, 70-80% of women diagnosed with breast cancer have *no* risk factors. Therefore, all women should consider themselves at risk and incorporate this into their daily self-care program.

What can you do about early detection?

The American Cancer Society recommends the monthly practice of BSE by women 20 years and older as a routine good health habit. The Cancer Society also recommends a baseline mammogram for women age 35 to 39. Women 40 to 49 without symptoms should have mammography every one to two years, and those age 50 and over should have yearly mammograms.

In addition, a professional physical examination of the breasts is recommended at least every three years for women 20 to 40 and every year for those over 40.

A combination of mammography, breast self exam and regular breast examinations by a health professional could reduce the number of cancer deaths by 50%.

Examining Your Breasts

A woman's breasts have a special significance for her; breasts represent femininity, womanhood, mothering and sexuality. Most women do not practice breast self exam each month because of fear and not knowing what they are feeling. It is difficult to tell the difference between normal and abnormal without training and practice. The important thing is to learn how *your* breasts feel and detect any changes over time. Training by a health care professional can help relieve your fears and increase your confidence in performing BSE.

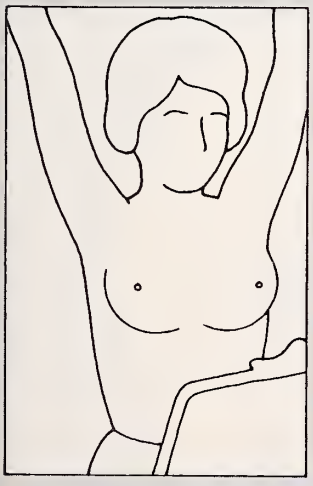
Here are the steps of BSE. Illustrations are from the American Cancer Society's booklet "How To Examine Your Breasts."[1]

1 In the shower:

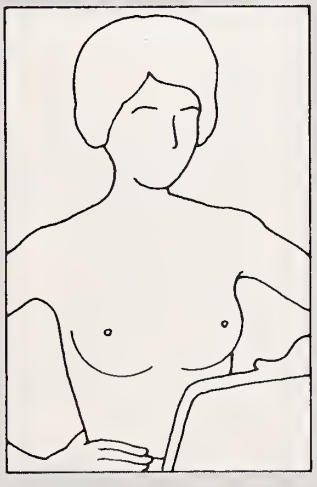


Examine your breasts during bath or shower; hands glide more easily over wet skin. Fingers flat, move gently over every part of each breast. Use the right hand to examine the left breast, the left hand for the right breast. Check for any lump, hard knot or thickening.

2 Before a mirror:



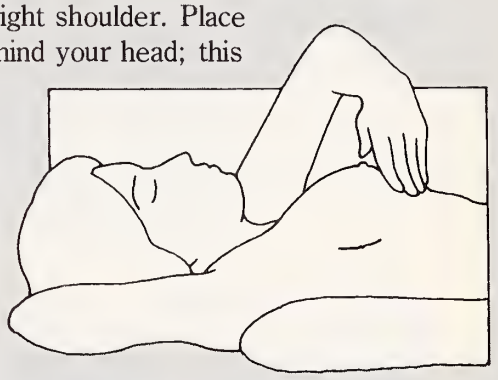
Inspect your breasts with arms at your sides. Next, raise your arms high overhead. Look for any changes in contour of each breast: a swelling, dimpling of skin or changes in the nipple.



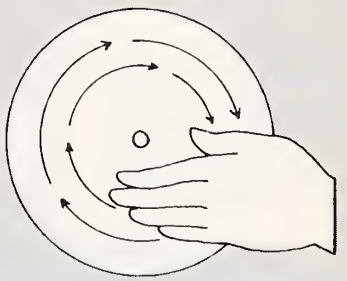
Then rest palms on hips and press down firmly to flex your chest muscles. Left and right breast will not match exactly; few women's breasts do. Regular inspection shows what is normal for you and will give you confidence in your examination.

3 Lying down:

To examine your right breast, put a pillow or folded towel under your right shoulder. Place your right hand behind your head; this distributes breast tissue more evenly on the chest.



With your left hand, fingers flat, press gently in small circular motions around an imaginary clock face. Begin at outermost top of your right breast for 12 o'clock, then move to 1 o'clock, and so on around the circle back to 12. A ridge of firm tissue in the lower curve of each breast is normal. Then move in an inch, toward the nipple. Keep circling to examine every part of your breast, including the nipple. This requires at least three more circles. Now slowly repeat the procedure on your left breast with a pillow under your left shoulder and your left hand behind your head. Notice how your breast structure feels.



Finally, squeeze the nipple of each breast gently between your thumb and index finger. Any discharge, clear or bloody, should be reported to your doctor immediately.



BSE is every woman's first line of defense against breast cancer. Ask your health care professional to do a thorough breast examination demonstrating how to do BSE. Call on your local American Cancer Society if you would like more information or training on how to do BSE.[1-4]

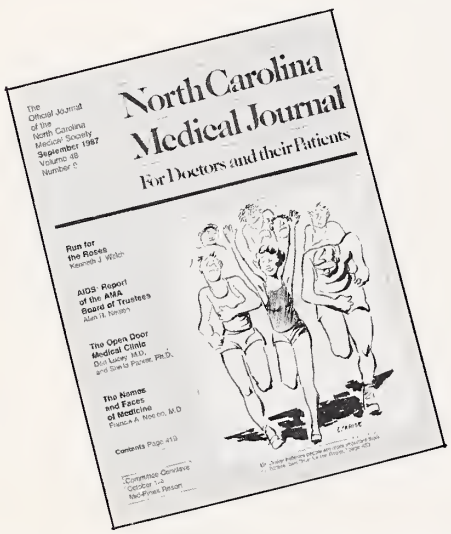
What else can you do to protect yourself against cancer? Practice a healthy lifestyle; eat a variety of foods from the basic food groups; exercise; avoid obesity, cigarettes, and alcohol. Strive for a balance between work and play. Learn how to relax and enjoy life. ■

American Cancer Society Brochures

1 How to examine your breasts, ACS #2088
2 Cancer facts and figures-1987, ACS #5008
3 Now, breast cancer has nowhere to hide, ACS #2007
4 Taking control, ACS #2019.05

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References: 1. Feighner JP, *et al: Psychopharmacology 61*:217-225, Mor 22, 1979. **2.** Dota on file, Hoffmonn-Lo Roche Inc., Nutley, NJ. **3.** Dixon R, Cohen J: *J Clin Psychopharmocol 3*:107-109, Apr 1983.

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Wornings: Use with greot core in potients with history of urinory retention or ongle-closure glaucomo. Severe constipotion moy occur in potients toking tricyclic antidepressonts ond onticholinergic-type drugs. Closely supervise cordiovosculor potients. (Arrhythmios, sinus tochycordio ond prolongotion of conduction time reported with use of tricyclic ontidepressonts, especially high doses. Myocordiol infarction ond stroke reported with use of this closs of drugs.) Coution potients about possible combined effects with olcohol ond other CNS depressonts ond ogoinst hozordous occupotions requiring complete mentol olertness (e.g., operoting mochinery, driving).

***Usoge in Pregnancy:* Use of minor tronquilizers during the first trimester should olmost olwoys be ovoided becouse of increased risk of congenitol molformotions as suggested in severol studies. Consider possibility of pregnoncy when instituting therapy; advise potients to discuss theropy if they intend to or do become pregnant.**

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Adverse Reoctions: Most frequently reported ore those ossocioted with either component olone: drowsiness, dry mouth, constipotion, blurred vision, dizziness ond blooting. Less frequently occurring reoctions include vivid dreams, impotence, tremor, confusion ond nasal congestion. Mony depressive symptoms including anorexio, fatigue, weokness, restlessness and lethorgy hove been reported os side effects of both Limbitrol ond omitriptyline. Gronulocytopenio, joundice ond hepotic dysfunction hove been observed rorely.

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Neurologic: Incoordinotion, otoxio, numbness, tingling ond poresthesios of the extremities, extropyramidal symptoms, syncope, chonges in EEG patterns.

Anticholinergic: Disturbonce of occommodotion, porolytic ileus, urinory retention, dilatation of urinory tract.

Allergic: Skin rosh, urticorio, photosensitizotion, edemo of foce ond tongue, pruritus.

Hemotologic: Bone marrow depression including ogranulocytosis, eosinophilia, purpuro, thrombocytopenio.

Gostrointestinol: Nausea, epigastric distress, vomiting, anorexio, stomotitis, peculior toste, diorrheo, block tongue.

Endocrine: Testicular swelling ond gynecomostio in the male, breost enlorgement, galoctorrheo ond minor menstrual irregularities in the femole, elevation ond lowering of blood sugar levels, ond syndrome of inoppropriote ADH (ontidiuretic hormone) secretion.

Other. Heodoche, weight goin or loss, increased perspirotion, urinary frequency, mydriasis, joundice, olopecio, porotid swelling.

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The Diagnosis and Current Surgical Management of Breast Cancer

James F. Newsome, M.D.

In distilling the plethora of articles on breast cancer over the last several decades, one finds a recurring theme: the smaller the tumor at diagnosis, the longer the survival. Critical reappraisals of past experience and the results of randomized, clinical trials have altered our concepts to the extent that the management of patients suspected or proven to have breast cancer in the mid-1980s has little resemblance to the previous, almost Pavlovian, response of "breast cancer ergo mastectomy," radical or otherwise.

There are many factors contributing to these changes, among them mammography, the diagnosis of lesions based upon cytologic diagnosis of fine needle aspirates, the demonstration that appropriately administered radiation is equivalent to surgery in the local control of breast cancer in selected patients, the utility of axillary dissection as a staging as well as a therapeutic procedure, adjuvant chemotherapy, steroid hormone receptors, patient participation in therapy decisions, the evolution of the "two-step" procedures for diagnosis and treatment, breast reconstruction, and a recognition that our ability to accurately stage breast cancer continues to be limited. An in-depth discussion of each of the above is neither planned nor necessary. Since the overall management of patients with breast cancer and the appropriate sequential use of surgery, radiation therapy, and chemotherapy is governed by an appreciation for and the results of these factors, most will require some mention.

At the outset, it may be useful to point out some recent encouraging trends. Letton and Mason[1] observed no cancer-related deaths at ten and a half years following treatment of mammographically detected breast cancers in 62 postmenopausal women. Treatment included tylectomy (removal of the local lesion) and radiation therapy, total mastectomy and axillary node dissection, and in some the classical radical mastectomy. Blot et al[2] reported an approximately 15% decline in breast cancer mortality among premenopausal American women, presumably the result of earlier detection and the use of adjuvant chemotherapy. Our data (figure 1) indicate a complete reversal of the ratio of local to regional spread; currently in excess of 65% of the patients are classed as Stage I or less at the time of diagnosis. While the hope is that these trends are real and that by detecting minimal and in-situ lesions in increasing numbers of patients we can begin to significantly alter the mortality curves, previous experience leads us to be cautiously optimistic.

Mammography

Of the above-mentioned factors, *mammography* has had the greatest impact. Since the disclosure of the improved survival among women involved in the Health Insurance Plan of New York (HIP) study in the late 1960s and early 1970s, and the positive effect of early diagnosis of breast cancer by the Breast Cancer Detection Demonstration Project (BCDDP) in the late 1970s, there has been a continuing, striking improvement in the quality of the mammographic films, a decrease in the radiation exposure, and a greater availability of radiologists skilled in mammographic interpretation. There persists, however, a false negative rate of 5-10% in the best of circumstances; probably as great as 20% in areas without ideal facilities. This observation makes it unwise to rely upon mammography to ascertain the nature of a palpable breast mass. Nevertheless, skilled mammog-

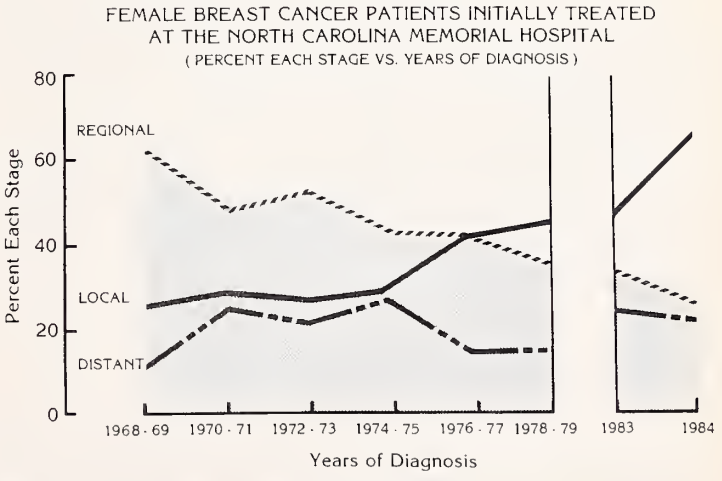


Figure 1. Observed changes in the stage at the time of diagnosis of breast cancer since 1968.

From the Department of Surgery, University of North Carolina School of Medicine, Chapel Hill 27514.

raphy has proven to be the gold standard in screening for minimal and subclinical breast cancer.

The role of mammography in therapy planning has not been generally emphasized. The radiographic demonstration of a spiculated mass, two cm or less in size, without other worrisome changes, suggests that therapy with breast preservation is an acceptable option. The demonstration, however, of multiple foci of clustered microcalcifications scattered throughout a goodly portion of a breast quadrant, or other lesions with worrisome radiographic characteristics, would indicate that the hope of controlling such a cancer without total mastectomy is unrealistic.

As indicated, the ideal use of mammography is as a screening device for the identification of subclinical disease. In the presence of a palpable mass, mammograms are procured *not* to determine the nature of the mass but to evaluate the remaining portions of this breast as well as the opposite breast for evidence of subclinical cancer. Palpable masses are best evaluated by fine needle aspiration.

Fine Needle Aspiration

The use of *cytologic study of a fine needle aspirate* to confirm one's suspicion of malignancy in the breast seems well-established. That it can adequately confirm one's suspicion of benignancy is not so clearly demonstrated, though its acceptance seems to be increasing. The cumulative experience of a number of studies evaluating the sensitivity and specificity of cytologic diagnosis of fine needle aspirates of thyroid, breast, lymph node, and prostate samples indicates an accuracy rate of about 90%.

The most frequent use of fine needle aspiration is to ascertain whether a palpable mass is cystic or solid, a judgment that is not reliably made by physical examination alone; viewed differently, the procedure is used to determine the need for an open biopsy. The recovery of watery, cloudy fluid that varies in color from amber to greenish-black with *complete disappearance* of the mass is characteristic of a benign cyst and cytologic study of the aspirate is rarely indicated. Failure to achieve complete disappearance of the mass, or the recovery of material not in keeping with a benign cyst, requires cytologic study of the aspirated debris and/or biopsy in most, if not all, instances.

The technical considerations in the procurement and preparation of material for cytologic study may vary a great deal; the methods employed should be determined in consultation with the cytopathologist who has a responsibility for interpretation.

Steroid Hormone Receptors

Knowledge of *steroid hormone receptor* levels is useful in planning treatment for recurrent or metastatic disease and, in some instances, in planning adjuvant therapy. The instability and heat lability of the steroid hormone receptor complex is such that fresh tissue, promptly frozen, is a basic requirement for accurate assessment of receptor concentration using the dextran charcoal coated method. The increasing availability of immunologic techniques for the determination of steroid receptor levels from fine needle aspirates should make such information routinely available on all patients with breast cancer.

Adjuvant Chemotherapy

Breast cancer *adjuvant chemotherapy* was the subject of a Consensus Development Conference of the National Institutes of Health in September 1985. While optimal therapy has not been identified, based on experience to date the following conclusions were reached:

1 For premenopausal women with positive lymph nodes, regardless of hormonal receptor status, treatment with established combination chemotherapy should become standard care.
2 For premenopausal patients with negative nodes, adjuvant chemotherapy is not generally recommended. For certain high-risk patients in this group, adjuvant chemotherapy should be considered.
3 For postmenopausal patients with positive nodes and positive hormone receptor levels, Tamoxifen is the treatment of choice.
4 For postmenopausal patients with positive nodes and negative hormone receptor status, chemotherapy may be considered but cannot be recommended as standard practice.
5 For postmenopausal women with negative nodes, regardless of hormonal receptor status, there is no indication for routine adjuvant treatment. For certain high-risk patients in this group, adjuvant therapy may be considered.

In addition to the above recommendations, all would agree that clinical investigation continues to be an important part of the adjuvant chemotherapy program and that physicians should strongly encourage all their patients with breast cancer to consider participation in controlled clinical trials.

Radiation Therapy

Several studies have shown that local control of breast cancer in selected patients can be achieved as well by *radiation therapy* after excision of the primary tumor as by mastectomy. In 1985, Fisher et al[3] reported the experiences of the National Surgical Adjuvant Program for Breast Cancer (NSAPB), demonstrating no advantage in ultimate survival when total mastectomy was compared with segmental mastectomy (i.e., tylectomy, "lumpectomy," wide local excision) followed by radiation therapy. There was an im-

provement in local control in those individuals receiving radiation therapy. Patients included in the study had lesions that measured up to 4 cm in diameter. Since size of the primary tumor has been shown to be one of the more reliable predictors of subsequent outcome, it is the feeling of many (this author included) that these data, which appear competitive with other reports at five years, will eventually prove again the prognostic value of tumor size.

It has been a universal experience that approximately 80% of breast cancers are of the infiltrating ductal and lobular varieties. There are, however, other histologic varieties that do not demonstrate nodal metastasis with the frequency of the more common tumors, and survival rates at 10 years are generally 30% to 40% better. These include colloid, papillary, medullary, and tubular carcinomas. This histologic information is very relevant in considering treatment recommendations that include breast preservation.

Preoperative Evaluation

What constitutes an adequate *preoperative evaluation* for metastatic disease? There are no studies to indicate that, in the absence of symptoms, the currently available imaging techniques are uniformly useful in a search for metastatic disease. Quite the contrary, all studies have shown that, in a truly asymptomatic patient, bone and liver scans are an expense and a use of resources that cannot be justified. It has been a practice, however, to procure a bone scan prior to planning therapy for individuals in whom the physical examination implies disease that is far more extensive than the history would suggest. A chest x-ray is still considered an important part of the preoperative evaluation for breast cancer patients, though the discovery of metastatic disease in the absence of symptoms is quite low. It is apparent that current techniques do not adequately demonstrate asymptomatic microscopic systemic disease. The use of monoclonal antibody techniques for this purpose holds considerable promise that staging can indeed be accurately achieved.

From the above it should be evident that there is no standard form of management applicable to all patients with breast cancer. It is only after cell type and extent of disease are known that a firm recommendation for management can be formulated, including alternative treatment methods. In this regard it is our custom to discuss with the patient and the family the need to procure as much information as possible prior to recommendations for therapy. This permits some understanding of the steps necessary in outlining treatment programs and at the same time allows patient participation in such therapy decisions. It is extremely important, we believe, for the radiation oncologist to have an opportunity to evaluate and discuss alternative forms of management with the patient *prior* to any therapeutic maneuver being undertaken.

Translating the above into diagnostic and treatment strategies, the following may be illustrative.

Individuals found to have radiographically suspicious areas on routine screening mammography require biopsy, usually after needle localization, of the specimen being radiographed to ensure that the area of concern has been excised. In most instances the specimen, if it proves to be carcinoma, is of such small size that traditional methods of steroid hormone receptor level determination are not applicable. Individuals in whom the remaining portion of the breast shows no suspicious radiographic change are currently thought to be ideal candidates for radiation therapy, thus preserving the breast. In those who are candidates for adjuvant chemotherapy, a limited axillary dissection is recommended. The finding of carcinoma in any lymph node is indicative of the need for adjuvant therapy.

Patients who present with palpable breast lumps undergo the same plan of management. The presence of carcinoma can usually be established by cytopathologic study of the cellular debris recovered by fine needle aspiration of the palpable mass. If physical and radiographic examination indicate that breast preservation therapy is a realistic option, a judgment in which the patient should participate, procedures similar to those just outlined are followed. In most instances wide excision of the palpable mass for determination of cell type, steroid hormone receptor activity, and an assessment by the pathologist of the involvement of the margins are all useful in planning subsequent management.

Should there be indications of other disease within the breast or if the size of the lesion exceeds 3 cm, or if after excisional biopsy the cosmetic result is likely to be unacceptable, then, we believe, total mastectomy and a full axillary dissection, usually referred to as a "modified radical mastectomy," is the procedure of choice. Our practice is to procure immediately prior to mastectomy, if we have not already done so, an adequate fresh sample of the tumor for steroid hormone receptor level determination.

If, for any of several reasons, preservation of the breast is not a treatment option, there seems little reason not to proceed with total mastectomy and axillary node dissection.

Axillary Node Dissection

Emphasis on *axillary node dissection* as an indicator of the extent of disease, and the concern that arm edema may be increased when radiation is added to a dissected axilla, have led to the concept of limited axillary dissection. All patients with breast cancer, whether treated by tylectomy and radiation or by mastectomy, should undergo axillary dissection, unless it is clear that systemic adjuvant therapy will not be indicated. Physical examination is unreliable in ascertaining the presence or absence of nodal metastasis.

The levels of axillary dissection are defined as follows: Level I is marked by the lateral border of the pectoralis minor muscle; Level II reaches to the medial border of the pectoralis minor muscle; and Level III is that portion of the axilla from the medial border of the pectoralis minor to the

apex of the axilla, defined at the point that the subclavian vein disappears into the chest over the first rib. Individuals undergoing total mastectomy and axillary node dissection (modified radical mastectomy) are generally subjected to a complete axillary dissection, that is, including Level III. In the majority, this can be accomplished with preservation of the pectoralis minor, but care must be exercised to preserve the nerve supply to the pectoral muscles.

Axillary dissection to Level II is the most common practice when tylectomy and radiation therapy are planned. It is customary to indicate the extent of the dissection by a radiopaque clip to aid the radiation therapist in planning therapy. Level I or lesser dissections are reserved for those situations in which the simple documentation of suspected axillary nodal metastases is the goal.

Total mastectomy and axillary node dissection is by far the most common surgical procedure for the local control of breast cancer employed in this country today. In some instances if the pectoralis muscle appears involved, the standard radical mastectomy is employed for local control of disease.

Breast Reconstruction

Breast reconstruction is a valuable asset in the management of women with breast cancer. Whether immediate or, as in most instances, delayed three to six months after mastectomy, breast reconstruction offers these women good balance and symmetry. It contributes to good body image and enables patients to wear their usual wardrobe without the insecurity of an external removable breast prosthesis.

Contralateral Breast Biopsy

Although this procedure was carried out routinely for about 15 years, we no longer perform contralateral breast biopsy except in individuals who have physical and radiographic areas of suspicion or if the primary carcinoma in the ipsilateral breast is of a lobular cell type. In this instance, a 2 x 2 x 3 cm biopsy specimen from the upper outer quadrant is procured for histologic study.

Prophylactic Mastectomy

The role of *prophylactic mastectomy* has been variously discussed as a procedure for the prevention of cancer. The indications are not totally clear. Nulliparous women with a prominent family history of breast cancer in premenopausal first degree relatives *and* with atypical hyperplasia on biopsy are likely candidates. If such is deemed necessary, efforts to achieve complete removal of all breast tissue are imperative. This generally requires a total mastectomy including the nipple and areola complex and, if so desired, breast reconstruction.

Conclusions

The appropriate treatment for breast cancer is governed by size and location of lesion, age of patient, histologic cell type, extent of disease (including multicentricity), nodal involvement, metastatic deposits, the steroid hormone concentration, and the patient's understanding of the significance of the results of these procedures and the logic behind the therapeutic recommendation. If attempts at local control of the breast cancer without removal of the breast seem at all reasonable, consultation with the radiation therapist should be sought prior to any recommendations for the institution of treatment.

Returning to the initial theme, there is now considerable evidence that the expanding use of screening mammography to detect subclinical cancer is the single most important factor governing the recommendations for therapy for breast cancer. It carries with it the opportunity to further decrease the mortality rate that has now, for the first time, become evident. ■

References

1 Letton AH, Mason E. Routine breast screening survival after 10.5 year follow-up. Ann Surg 1986;203:470.

2 Blot WJ et al. Declining breast cancer mortality among young American women. JNCI 1987;78:451-4.

3 Fisher B et al. Five-year results of a randomized clinical trial comparing total mastectomy and segmental mastectomy with or without radiation in the treatment of breast cancer. N Engl J Med 1985;312:665-73.

The Current Role of Radiation in the Management of Breast Cancer

Carolyn Ferree, M.D.

The Halstedian principle of radical surgery for breast cancer endured nearly 75 years before McWhirter challenged the tradition by introducing the concept of lesser surgery followed by radiation. Although management of breast cancer has become increasingly conservative in recent years, no clear biological principle has directed this trend. In fact, the earliest experience with lumpectomy followed by radiation resulted when some women refused mastectomy; hence in many respects these women pioneered the conservative approach to the treatment of early breast cancer, which remains controversial despite its increasing popularity.

As of 1985, 42 studies had been conducted in 12 countries including the United States, and more than 10,000 patients had been treated by this conservative approach.[1] In no study has the survival rate for this method been any less favorable than for patients who undergo mastectomy. Follow-up in some of these studies is as long as 30 years,[2] and three of the studies were prospectively randomized. Despite all the data accumulated during the past 50 years, only 11%[3] of the 120,000 women who develop breast cancer each year are treated conservatively. Yet the majority of patients are suitable candidates for conservative management, and the numbers should continue to rise as screening mammography, which allows earlier detection of cancer, becomes a regular component of the physical examination.

Although conservative therapy was pioneered without directed principles, biological principles which support the approach have been recognized during the past 15 years. The supporting principle is based on the recognition that aggressive local therapy has not improved survival rates because breast cancer is most frequently a systemic disease. Hence, it follows that control of local disease should not significantly alter survivals. Another factor supporting acceptance of lesser surgery for breast cancer is the recognition of the psychological aspects of losing a breast to cancer.

From the Department of Radiology, Division of Radiation Oncology, Bowman Gray School of Medicine, Wake Forest University, 300 S. Hawthorne Road, Winston-Salem 27103.

What is Conservative Management?

Conservative management of breast cancer is the surgical removal of the primary lesion with negative margins and axillary dissection for staging followed by radiation therapy. The role of the radiation is to eradicate any microscopic tumor cells within the breast. With this approach, permanent local control can be achieved, histological and biochemical information can be ascertained, and the breast can be preserved with good cosmesis. Another important positive aspect of this approach is that it provides additional incentive for women to participate in early detection programs.

There are several negative aspects concerning therapy. The radiation treatments are time-consuming, usually requiring between five and seven weeks. The radiation is expensive if one considers interruption of work and commuting expenses. Furthermore, persistent lymphocytopenia often follows the radiation, and the patient and physician must commit to a frequent and long-term follow-up program. Lastly, 70% of patients who undergo lumpectomy and radiation therapy are treated unnecessarily, since the local failure rate is approximately 30% for those treated by margin-negative lumpectomy alone. Unfortunately, at this time there are no clear-cut criteria for selecting those most likely to have recurrences.

Absolute contraindications to this mode of treatment are few. The finding of multiple lesions is a contraindication, and lobular carcinoma, infiltrating or in situ, is probably best treated by mastectomy because of the risk of multicentricity. Intraductal carcinoma is *not* a contraindication unless it is an extensive component of an infiltrating lesion as well as adjacent tissue. In this case, the local recurrence rate can be as high as 25%.[4] Except for intralymphatic extension in the index tumor, the National Surgical Adjuvant Breast Project (NSABP) B-06 study revealed no pathological contraindications.[5] A very large pendulous breast can be technically difficult to treat and, because of loss of skin-sparing in the folds around the breast, moist desquamation or ulceration can be a problem. Consequently, most patients with very large breasts are probably best treated by mastectomy, although reconstruction is difficult unless it is accompanied by contralateral reduction mammoplasty. Tu-

mor-breast ratio is also an important factor in the candidate selection process. Tumor size itself is probably not a contraindication as long as the tumor does not involve skin or chest wall; however, if the tumor is large and the breast is small, so that the ratio approaches one, the cosmetic result will be poor. In those cases mastectomy and reconstruction are usually recommended. Also there are a few patients who psychologically are not prepared to accept the 7-10% possibility of local recurrence, which would then require a mastectomy.

A team approach between surgeon and radiotherapist is of extreme importance if the best cosmesis is to be obtained. Recommendations have been published by the NSABP for the segmental mastectomy and the axillary dissection which will optimize cosmesis. The greatest pitfall is the use of a single diagonal incision to remove an upper outer-quadrant lesion and then extending into the axilla for the axillary dissection. The eventual result is contraction of the breast toward the axilla, as well as a scar which can become very uncomfortable from the friction produced by a conventional bra. A second pitfall is the closure of dead space following the segmental mastectomy, which results in a significant and unnecessary concave defect within the breast tissue.

Radiation technique is also a major factor in cosmesis, although it cannot improve upon the end result of the segmental mastectomy. Supervoltage equipment is essential to preserve skin-sparing. For the same reason, bolus (tissue density material added to skin to increase skin dose, but sacrifice skin-sparing) is avoided. A treatment-planning computed tomographic (CT) scan through the central portion of the breast is obtained and used to generate isodose distributions to ensure homogeneity of dose throughout the breast. This procedure is done for each patient and frequently requires wedge beam modifiers. The breast is treated with opposed tangential portals angled to minimize divergence of beams into the lung.

Cosmetic Results

Cosmesis is the primary advantage of segmental mastectomy and radiation, and with appropriate orchestration between surgeon and radiation oncologist, approximately 80% of patients have good to excellent cosmetic results. The majority of patients develop a transient edema of the breast which is directly related to the extent of the axillary dissection,[6] and many have persistent mild edema for two to three years. Patients with large breasts are more likely to develop breast fibrosis and retraction secondary to the radiation, whereas patients with small breasts have more visible surgical defects, depending on the surgical technique and amount of breast tissue removed. Adjuvant chemotherapy apparently has some detrimental impact on cosmesis. According to Beadle,[7] 24% of patients who received chemotherapy had an excellent cosmetic result, compared to 64% of those who did not receive chemotherapy; however, the results were still considered good. Danoff [8] reported good or excellent cosmesis in 81% of those treated with chemotherapy, compared to 89% treated with primary radiation alone.

Two to three years is probably adequate time to assess the definitive cosmetic[9] result in patients who receive radiation alone; however, for those receiving adjuvant chemotherapy more time may be required to reach a cosmetic endpoint.

Table 1

Complications of Primary Radiotherapy: Stage I and II Breast Cancer

Complication	*Danoff*[10]	*BGSM*[11]	*Chu*[12]
Arm edema	1-9%	3%	5%
Rib fracture	1-4%	<1%	
Pneumonitis	2-4%	2%	3%
Fat necrosis		1%	
Myositis	5%	1%	
Skin ulceration	1-2%	2%	2%
Severe breast fibrosis	2-6%	<1%	3%

Complications

Complications are seen in approximately 5% of patients treated with segmental mastectomy and radiation. A summary of the most common complications appears in table 1. With adjuvant chemotherapy, the single complication with an increased incidence is arm edema (22% versus 1-5%).[8]

There have been no reports of second malignancies following conservative treatment despite series dating from the 1930s. Neither has there been any evidence that the incidence of contralateral breast cancer is increased.

Other Roles of Radiation Therapy

Radiation therapy should continue to play a role after mastectomy in those patients who are at high risk for local-regional recurrence. In the Radiation Therapy Department at Bowman Gray School of Medicine, 27-36% of the recent patients with breast cancer (excluding those receiving pal-

Table 2

Breast Cancer Experience, North Carolina Baptist Hospital Radiation Therapy Department

	1975	*1982*	*1985*	*1986*
Routine Post-op	45	12	13	14
Lumpectomy	1	17	49	52
Inflammatory	5	3	7	10
Local/Regional	13	35	38	28
Total	64	67	107	104

liative therapy for distant metastatic disease) had received adjuvant chemotherapy for their high-risk status, but the cancer had recurred either during their chemotherapy or shortly after completion of chemotherapy. Prior to the advent of adjuvant chemotherapy, when radiation was employed more routinely, local recurrences were seen less frequently (table 2). After overt recurrence, the local control rates are only 28-49%.[13,14]

Despite radiation, 7-10% of these high-risk patients will have recurrences. Local-regional recurrence can be a dreadful complication for the patient, psychologically and physically, and should be prevented if at all possible. High-risk factors include positive deep margins at time of mastectomy, skin involvement, multiple positive nodes, extensive involvement of the breast, large primary, nodal extracapsular extension, or inflammatory breast cancer following appropriate chemotherapy and mastectomy.

Palliative management of metastatic breast cancer is important for patients with bone pain, cord compression, brain metastasis, or many other symptom-producing situations. Quality of survival can be improved in approximately 75-80% of these patients.

Present State of the Art

The benefits of segmental mastectomy and radiation as conservative management of early breast cancer should no longer be questioned, although some specifics about the combined procedure remain controversial. Multiple studies in the literature supporting the use of segmental mastectomy and radiation report survival rates at least equal to those obtained with mastectomy. It is important to realize, however, that most patients treated thus far have been selected for small lesions and uncomplicated pathology.

Although 7-10% of these patients may have a local recurrence, there is no evidence that survivals are adversely affected if there is adherence to appropriate follow-up guidelines and if proper treatment is undertaken at the time of recurrence. These results contrast sharply with those of patients with chest wall recurrences following mastectomy with only 20-40% alive at five years.

Local-regional recurrences have become a major concern in that adjuvant chemotherapy has not effected the high degree of local control seen in the era of routine postoperative radiation for high-risk patients. If high-risk factors for local recurrence exist, radiation should still be considered as part of the overall management plan. ■

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References

1 Bluming AZ, Dosik G, Lowitz B, et al. Treatment of primary breast cancer without mastectomy. The Los Angeles community experience and review of the literature. Ann Surg 1984;204:136-47.
2 Peters MV. Wedge resection with or without radiation in early breast cancer. Int J Radiat Oncol Biol Phys 1977;2:1151-6.
3 Clark M, Witherspoon D. Breast cancer: a kinder care. Newsweek, February 1985.
4 Schnitt SJ, Connolly JL, Harris JR, et al. Pathologic predictors of early local recurrence in Stage I and II breast cancer treated by primary radiation therapy. Cancer 1984;531049-57.
5 Fisher ER, Sass R, Fisher B, et al. Pathologic findings from the National Surgical Adjuvant Breast Project (Protocol 6). II. Relation of local breast recurrence to multicentricity. Cancer 1986;57:1717-24.
6 Clarke D, Martinez A, Cox RS. Analysis of cosmetic results and complications in patients with Stage I and II breast cancer treated by biopsy and irradiation. Int J Radiat Oncol Biol Phys 1983;9:1807-13.
7 Beadle GF, Come S, Henderson IC, et al. The effect of adjuvant chemotherapy on the cosmetic results after primary radiation treatment for early stage breast cancer. Int J Radio Oncol Biol Phys 1984;10:2131-7.
8 Danoff BF, Goodman RL, Glick JH, et al. The effect of adjuvant chemotherapy on cosmesis and complications in patients with breast cancer treated by definitive irradiation. Int J Radio Oncol Biol Phys 1983;9:1625-30.
9 Pierquin B, Baillet F, Rilson JF. Radiation Therapy in the management of primary breast cancer. AJR 1976;127:645-8.
10 Danoff BF, Haller DG, Glick JH Goodman RL. Conservative surgery and irradiation in the treatment of early breast cancer. Ann Intern Med 1985;102:634-642.
11 Ferree CR. To be published, 1987.
12 Chu AM, Cope O, Russo R, Wang CC. Treatment of early stage breast cancer by limited surgery and radical irradiation. Int J Radiat Oncol Biol Phys 1980;6:25-30.
13 Tapley N, Fletcher G. electron beam treatment of the chest wall after radical mastectomy. In: Breast Cancer; Early and Late. Chicago: Yearbook Medical Publishers, Inc. pp. 281-7.
14 Bedwinek JM, Fineberg B, Lee J, Ocwieza MA. Analysis of failures following local treatment of isolated local-regional recurrence of breast cancer. Int J Radiat Oncol Biol Phys 1981;7:581-5.

AUTHORS

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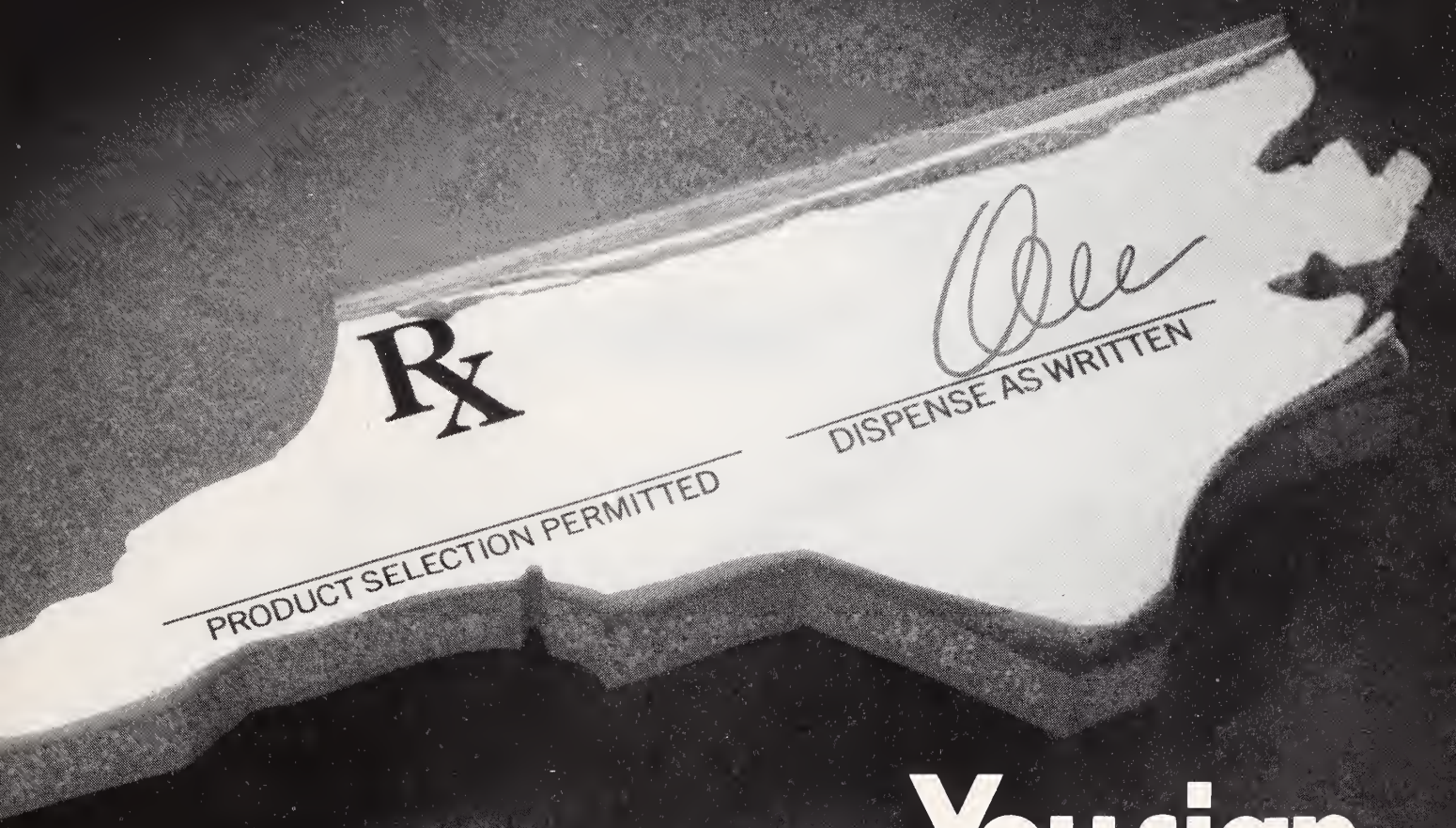
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The Role of Systemic Therapy in Early Breast Cancer

Stephen A. Bernard, M.D.

Systemic therapy in early breast cancer is based on concepts that evolved during the 1960s. The management of breast cancer until that time was largely surgical and focused on eradication of local disease. The principles of surgical management expounded by Halstead in the late 1800s viewed breast cancer as a localized disease which spread in an orderly fashion to the regional nodes and thence to the remainder of the body.[1]

Beginning in the 1950s, observations by Bernard Fisher at the University of Pittsburgh lead him to propose an alternative hypothesis.[2] Breast cancer is viewed as a disease which may bypass the regional nodes and spread systemically first.[2] This hypothesis is supported by such observations as circulating cancer cells and the prolonged doubling time of breast cancer.[2,3] Additionally, several surgical series have demonstrated a distant recurrence rate of 50% or more in women within the first few years after a primary resection.[3-5]

Most importantly, this alternative hypothesis has been tested in several randomized clinical trials of various surgical techniques which have shown that various forms of aggressive local surgery do not affect the length of disease-free survival (time without recurrence after initial surgery), nor the overall survival (time from initial therapy to death), of the patient. Although these trials have been criticized for their relatively short follow-up, and radiation techniques, the evidence continues to emerge that such surgical techniques as the segmental mastectomy may well be equivalent to the modified radical mastectomy.[2,4,6]

Because of the high likelihood of distant failure, investigators in the 1960s began focusing on the use of systemic therapy to alter the natural history of early breast cancer.[2,3,7] Schabel demonstrated in an implantable mouse mammary tumor that the introduction of systemic therapy at an appropriate time and at an appropriate dosage was capable of effecting a cure in 80% of the animals.[8]

Several early clinical trials of adjuvant therapy in the postoperative period used single-agent chemotherapy in women with breast cancer in an effort to treat occult micrometastases. These trials used as their major criteria for enrollment into the study the presence of axillary nodal involvement in the initial surgical specimen. The presence of regional nodal involvement has been shown to be the most powerful predictor of recurrence.[2,3,6] The hypothesis proposed by Fisher suggests that these nodes may not be the first site of metastases but serve as an indicator of disease spread outside of the breast.[2] Several of the original trials also included women without axillary nodal involvement (node negative breast cancer), since even in this group of women recurrence is seen in up to 20-25% after 5-10 years.[3,6,9]

These trials did not result in the complete elimination of recurrent breast cancer as was hoped. The failure to observe such results initially discouraged physicians interested in this area of clinical investigation. However, beginning with reports by several investigators of a beneficial result for adjuvant chemotherapy in the mid-seventies, additional trials employing combinations of chemotherapy and, in several cases, hormonal manipulation were begun and are still ongoing.[10-14] Thirty-four thousand women have now been enrolled in trials looking at the primary treatment of breast cancer.[15] A few of these trials are summarized in tables 1 and 2 (next page).

Several conclusions can be drawn from these studies:

1. Benefit has been seen mainly as a delay in recurrence of breast cancer (disease-free survival). The studies by Fisher and Bonadonna have shown a delay of recurrence for up to several years.[11,16] In the trial by Bonadonna, women with more than four nodes involved and presumably the highest tumor burden experienced a delay in recurrence of up to eight years.[16]

The impact on survival overall has been less easily shown. The early delay in recurrence has not always translated into prolonged freedom from disease. Treatment at the time of recurrence is relatively successful in breast cancer and may delay further disease progression.[3] Only modest attention has been paid to the course of the disease after recurrence in many of these trials. Often women in the postmenopausal

From Department of Medicine, Room 3019 Old Clinic Building, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill 27514.

Table 1

Results of adjuvant therapy trials in early breast cancer (disease-free survival)

Study	# Pts.	Follow-up	Benefit* in Premenopausal	Benefit* in Postmenopausal
Nissen-Meyer 1964-	1136	84 months	Y	Y
Fisher 1971-1974	380	120 months	Y	N
Bonadonna 1973-1974	386	108	Y	N
Taylor 1978-1981	265	36	—	N
Goldhirsch	463	48	—	Y
Baum	1285	24-72	Y	Y

* Benefit: A difference of more than 10% in the two treatment arms that is statistically significant; Y: yes, N: no.

Table 2

Results of adjuvant therapy trials in early breast cancer (overall survival)

Study	# Pts.	Follow-up	Benefit* in Premenopausal	Benefit* in Postmenopausal
Nissen-Meyer 1964-	1136	84 months	N	N
Fisher 1971-1974	380	120 months	Y	N
Bonadonna 1973-1974	386	108	Y	N
Taylor 1978-1981	265	36	—	N
Goldhirsch	463	48	—	N
Baum	1285	24-72	Y	Y

* Benefit: A difference of more than 10% in the two treatment arms that is statistically significant; Y: yes, N: no.

age group may die of other diseases besides breast cancer, diluting the effect of systemic therapy on overall survival.[16,17]

2. The benefit in either disease-free survival or overall survival has not been seen among all groups of women. This has been true whether the patients are classified by menopausal status, age, or number of nodes involved.[6,11-14] Most often, trials with single-agent chemotherapy have shown benefit in women with lesser amounts of disease.[10] On the other hand, trials with combinations of chemotherapy have not always shown benefit to this better prognosis group.[13]

3. The magnitude of the benefit from either chemotherapy or hormonal therapy or a combination is generally in the range of 10-20%; that is, an additional 10-20% of women show a reduction in recurrences in the treated group over the untreated group.[6,7,10,16] This benefit seems small, but there are 130,000 women who will be newly diagnosed with breast cancer in the United States this year,[18] and if approximately 50% are eligible for adjuvant therapy and an additional 15% would survive because of this treatment, this translates into approximately 10,000 women who would be alive because of such therapy.

4. As has been pointed out by Zelen and Gelman, many of the more recent trials in adjuvant breast cancer therapy have enrolled small numbers of patients for the types of questions being asked, and several of the trials have not been ongoing long enough to draw conclusions from the studies.[17] These recent trial results have again led to uncertainty in the medical community regarding the value of adjuvant chemotherapy, the groups that should receive this therapy, and what therapy should be given.

Because of the controversies surrounding the role of systemic therapy in the prevention of systemic recurrence in early breast cancer, an NIH Consensus conference was held in September, 1985. The conference concluded that there was enough evidence to warrant the use of chemotherapy in the premenopausal woman with positive nodes.[19] Additionally, there was enough information to warrant the use of hormonal therapy in the postmenopausal woman with involved nodes and positive hormone receptor levels.[19] For other groups, namely, postmenopausal women without positive receptors, and either premenopausal or post menopausal women without nodal involvement, the previous experience does not support the routine use of adjuvant therapy in a non-investigational setting.[19]

A more important message which has not always been emphasized from that consensus meeting is that "all patients and their physicians are strongly encouraged to participate in controlled clinical trials."[19] While physicians decide on the treatment of their patients from information obtained in several ways, the randomized clinical trial provides the most rigorous testing of a new treatment and the hypotheses on which it may be based.[20,21] While randomized clinical trials are not without problems, these problems have been increasingly recognized and the general quality of clinical trials in breast cancer has improved over the last several years.[15]

The impact of the randomized clinical trial on patterns of treatment is harder to assess. In a recent review 16% of all trials in cancer focused on breast cancer as the organ involved.[21] There is evidence that these trials have influenced the type of surgical procedure being done for breast cancer in the United States.[21] Medical oncologists have also incorporated the information from these trials into their practices. A recent survey suggests that the practicing medical oncologist is utilizing this information to treat early breast cancer in a more aggressive fashion than the consensus recommendations.[22]

Unfortunately, the same survey showed that 49% of the 634 respondents (8,200 hematologists and oncologists were mailed the questionnaire) did not enroll any patients in trials for stage II breast cancer.[22] The problem of low enrollment continues to affect the results obtained by randomized clinical trials in early breast cancer. Selection bias, that is, the biasing of results by selection of a study population weighted with either good or poor prognostic indicators, does not allow the results of these trials to be reliably generalized to the larger patient population.

The ability of the clinical trial to generate useful information which is reliable when looked at biologically, clinically, or statistically is to a major extent dependent on sufficient enrollment of patients to achieve as broad a representation of the study population as possible. Only approximately 2% of all women with early breast cancer are enrolled in clinical trials.[23] If further advances are to occur in this area of cancer biology and treatment, these trials must continue and there must be commitment on the part of physicians to these studies. A recent report suggests that patients want such studies to continue.[24]

Some of the moral, ethical and scientific reasons for this low accrual to clinical trials have been reviewed by Lacher and include problems with informed consent, randomization, and loss of stature by the physician.[25] A recent study by Langley et al. suggests that non-oncologic physicians are concerned particularly about the doctor-patient relationship in entering patients on clinical trials.[26] It is unclear whether these obstacles to accrual can be overcome to allow answers to the questions being raised by systemic therapy for early breast cancer.

There are other benefits to the use of randomized clinical trials besides answers to the treatment issues being addressed. In particular, the amount of information generated about the natural history of the disease and the realization of the heterogeneous nature of breast cancer, which had previously been viewed as a single disease, have led to a greater sophistication in the development of further studies of treatment in early breast cancer. By asking better questions we will surely obtain more precise answers and continue to improve the treatment of early breast cancer. With increased physician and patient participation, the answers we obtain will be more useful to the general population of women with early-stage breast cancer. ■

References

1 Lewis D, Rienhoff WF. A study of results of operations for the cure of cancer of the breast. Annals of Surgery 1932;95:336-400.

2 Fisher B. Laboratory and clinical research in breast cancer—a personal adventure: The David A. Karnofsky Memorial Lecture. Cancer Research 1980;40:3863-74.

3 Henderson IC, Canellos GP. Cancer of the breast. N Eng J Med 1980;302:17-30, 78-90.

4 Fisher B, Bauer M, Margolese R, et al. Five year results of a randomized clinical trial comparing total mastectomy and segmental mastectomy with or without radiation in the treatment of breast cancer. N Eng J Med 1985;312:665-72.

5 Valagussa P, Bonadonna G, and Veronesi U. Patterns of relapse and survival following radical mastectomy. Cancer 1978;41:1170-8.

6 Fisher B, Redmond C, Fisher E, et al. The contribution of recent NSABP clinical trials of primary breast cancer therapy to an understanding of tumor biology—an overview of findings. Cancer 1980;46:1009-25.

7 Nissen-Meyer R, Kjellgren K, Malmio K, et al. Surgical adjuvant chemotherapy: results with one short course with cyclophosphamide after mastectomy for breast cancer. Cancer 1978;41:2088-98.

8 Schabel FM. Rationale for adjuvant chemotherapy. Cancer 1977;39:2875-82.

9 Fisher B, Slack N, Katrych D,et al. Ten year follow-up results of patients with carcinoma of the breast in a cooperative clinical trial evaluating surgical adjuvant chemotherapy. Surg Gyn Obstet 1975;140:528-34.

10 Fisher B, Fisher ER, Redmond C, et al. Ten-year results from the National Surgical Adjuvant Breast and Bowel Project (NSABP) clinical trial evaluating the use of L-phenylalanine mustard (L-PAM) in the management of primary breast cancer. J Clin Oncol 1986;4:929-41.

11 Fisher B, Redmond C, Brown A, et al. Adjuvant chemotherapy with and without tamoxifen in the treatment of primary breast cancer: five-year results from the National Surgical Adjuvant Breast and Bowel Project trial. J Clin Oncol 1986;4:459-71.

12 Goldhirsch A, Gelber R. Adjuvant treatment for early breast cancer: the Ludwig Breast Cancer Studies. NCI Monographs, 1986;1:55-70.

13 Taylor SG, Kalish L, Olson JE, et al. Adjuvant CMFP versus CMFP plus tamoxifen versus observation alone in postmenopausal, node-positive breast cancer patients: three year results of an Eastern Cooperative Oncology Group Study. J Clin Oncol 1985;3:144-54.

14 Novaldex Adjuvant Trial Organization, Controlled trial of tamoxifen as single adjuvant agent in management of early breast cancer. Lancet 1985;1:836-9.

15 Liberati A, Himel HN, Chalmers T. A quality assessment of randomized control trials of primary treatment of breast cancer. J Clin Oncol 1986;4:942-51.

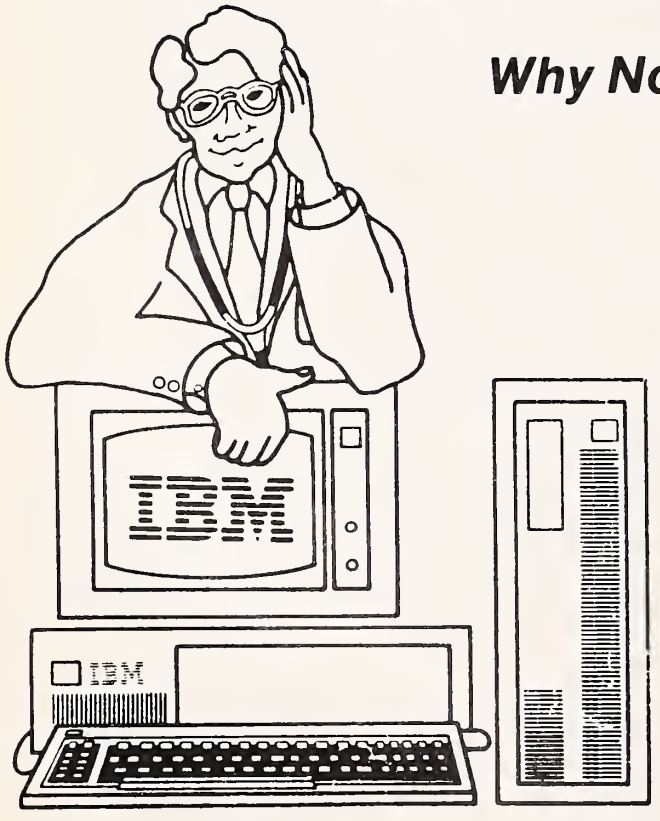
16 Bondonna G, Valagussa P. Adjuvant systemic therapy for resectable breast cancer. JClin Oncol 1985;3:259-74.

17 Zelen M, Gelman R. Assessment of adjuvant trials in breast cancer. NCI Monographs 1986;1:11-7.

18 Silverberg E, Lubera J. Cancer statistics, 1987. Ca-A Cancer J Clin 1987;37:2-19.

19 Consensus Conference. Adjuvant chemotherapy for breast cancer. J Am Med Assoc 1985;254:3461-3.
20 Tygstrup N, Lachin JM, Juhl, E. The randomized clinical trial and therapeutic decisions. New York: Marcel Dekker, Inc., 1982.
21 The impact of randomized clinical trials on health policy and medical practice: background paper. Washington, D.C: U.S. Congress, Office of Technology Assessment, OTA-BP-H-22, Aug 1983, pp.66-9.
22 Patterns of care: how American oncologists are treating stage II breast cancer. Oncol 1987;1:54-5.
23 Abeloff MD. Adjuvant therapy. Dialogs in Oncol 1987;4:1.
24 Cassileth BR, Lusk EJ, Miller DS, et al. Attitudes toward clinical trials among patients and the public. J Am Med Assoc 1982;248:968-70.
25 Lacher M. Patients and physicians as obstacles to a randomized trial. Seminars in Oncol 1981;4:424-9.
26 Langley GR, Sutherland HJ, Wong S, et al. Why are (or are not) patients given the option to enter clinical trials. Controlled Clin Trials 1987;8:45-8.

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Breast Reconstruction Following Mastectomy

Gregory Georgiade, M.D., F.A.C.S., Ronald Riefkohl, M.D., F.A.C.S., William Barwick, M.D., Nicholas Georgiade, M.D., F.A.C.S.

Carcinoma of the breast represents approximately 20% of all cancers occurring in women, with over 120,000 new cases of breast cancer reported in 1986.

Currently, there are more treatment options available for the patient presenting with primary breast cancer.[1] There has been a notable increase in the number of patients requesting breast reconstruction either immediately following their mastectomy or shortly thereafter.

The patient is now an active participant in the decision regarding the treatment options available. The surgeon should be flexible in selecting the optimal surgical treatment and additional therapeutic regimen for each patient. Treatment options for appropriately selected breast cancer patients include: modified radical mastectomy; modified radical mastectomy with immediate or delayed reconstruction; and segmental mastectomy or lumpectomy with or without axillary dissection and breast irradiation. In selected cases, a radical mastectomy may still be indicated. All of these therapeutic modalities have different benefits and risks.

Indications and Patient Selection for Breast Reconstruction

The patient undergoing breast reconstruction should have a strong desire and motivation for the procedure. General health should be good and, at the time of the reconstruction, there should be no evidence of recurrence. The psychological status should also be stable.

The patient should have realistic goals and expectations as to what will or will not result from breast reconstruction. If the expectations are extremely high, and the patient believes that the reconstructed breast will be an exact duplicate of the breast lost at mastectomy, then the degree of satisfaction will be low.

From Department of Surgery and Division of Plastic, Maxillofacial and Reconstructive Surgery, Duke University Medical Center, Durham 27710.

It is possible currently to achieve satisfactory breast contour and symmetry which allows the patient to wear bathing suits and low-cut necklines without any apparent discrepancy in appearance. One of the major benefits for the active patient is that reconstruction allows participation in such activities as swimming, tennis, golf and aerobic exercise without concern that an external prosthesis will shift. The age of the patient is irrelevant. The authors have reconstructed the breasts of patients between the ages of twenty and seventy years.

Breast reconstruction will be of value for many individuals for both physical and emotional rehabilitation after the extirpative surgery, and will minimize the psychological impact of an altered body image secondary to the extirpative surgery.[2-6]

The family physician, general surgeon, and plastic surgeon, in many instances, will function as a team in the overall management of the patient with breast cancer. Either immediate or delayed breast reconstruction in many situations will help the individual patient through a difficult time.

Timing of Reconstruction

In the more than 900 breast reconstructions completed by the authors, the timing of reconstruction has varied depending on a number of factors. In appropriately selected patients with smaller breast cancers and clinically negative axillary nodes, reconstruction can begin at the time of the ablative procedure. In the authors' experience with over 250 patients who have undergone breast reconstruction at the time of a modified radical mastectomy, the overall results have been quite rewarding and decreased the amount of stress the patient experienced after the mastectomy. Observation of this group of patients over a 10-year period yields no evidence that immediate reconstruction has any adverse effect on the patient's ultimate survival, or on local or regional recurrence rate of primary breast cancer.[7-9]



Figure 1A. A preoperative view of a 48-year-old patient with an infiltrating ductal carcinoma.

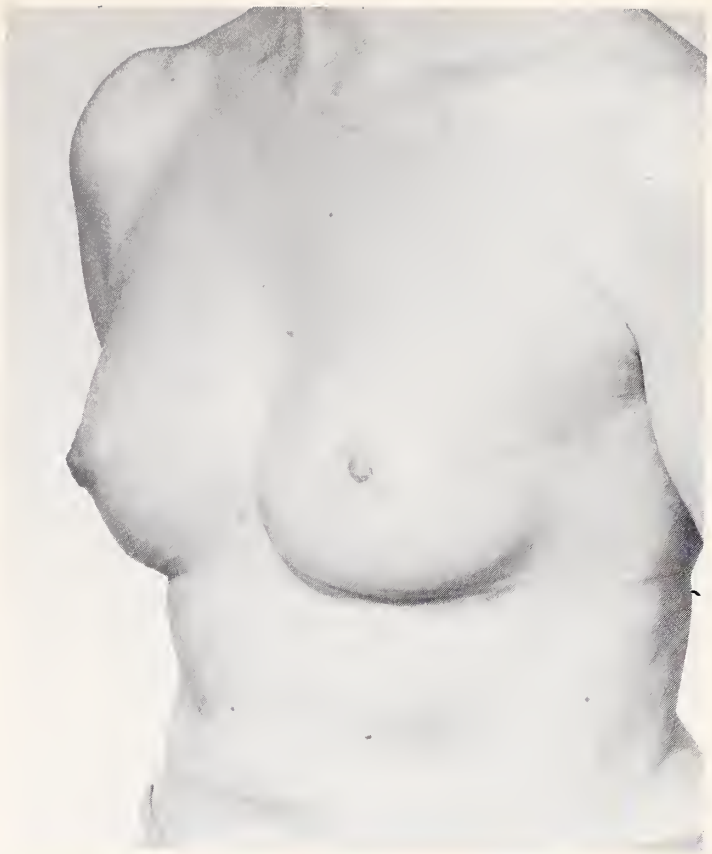


Figure 1B. The same patient is shown two and a half years postoperatively. She had an initial immediate breast reconstruction following a modified radical mastectomy with insertion of the prosthesis in the subserratus, subpectoral muscle pocket. A subcutaneous mastectomy had also been performed on the opposite breast. A prosthesis with 250 cc. volume was inserted bilaterally. The nipple was constructed by nipple sharing and the areola was constructed utilizing a groin graft.

If reconstruction is not initiated at the time of the original mastectomy, then the allowed time lapse is usually four to six months before beginning reconstruction. This allows for complete wound healing and resolution of the inflammatory response from the mastectomy. If the patient received chemotherapy, then the reconstruction is delayed until at least several months have elapsed following completion of the chemotherapy (or radiation therapy).

Patients with a poor prognosis from the original breast cancer should not submit to reconstruction for 18 to 24 months except in unusual circumstances.

Many patients who had mastectomies 10 to 20 years ago are requesting reconstruction, and most come to be very satisfied.

Immediate Reconstruction

After it has been determined that the patient is a suitable candidate for reconstruction at the time of the mastectomy, the general surgeon and plastic surgeon will plan the procedure together. If possible and appropriate, based on the primary breast cancer location, a transverse or slightly curved "S"-shaped incision extending obliquely from the medial aspect of the breast toward the upper, outer quadrant and anterior axillary line would be preferred. It must be remembered that the primary objective is adequate surgical treatment of the patient's breast cancer, and reconstructive efforts, although they are important, should be of secondary importance. No effort should be made that compromises the original ablative procedure in order to facilitate the reconstruction.

The basic technique for the placement of the breast implant at the time of the original mastectomy involves development of a submuscular pocket at the level of the sixth or seventh rib. A submuscular plane is developed after elevating the serratus musculature from the ribs, then extending superiorly under the pectoralis major muscle. The submuscular pocket is also extended medially beneath the fascial attachments of the rectus abdominus muscle and laterally as well to the anterior axillary area. A suitably sized prosthesis is inserted into the submuscular pocket and the skin is closed (figure 1A, B).

If the overlying skin is extremely tight or cannot be closed after the prosthesis has been placed in the submuscular pocket, then the best procedure is insertion of a tissue expander.[10,11] This is an inflatable prosthesis with a remote subcutaneous reservoir which is gradually expanded over a period of several weeks to months. After adequate breast size, shape and contour are obtained, the tissue expander is removed and a final prosthesis is inserted. During this stage,



Figure 2A. Preoperative front view of a 40-year-old patient who had a right modified mastectomy one year previously for intraductal carcinoma without nodal involvement.

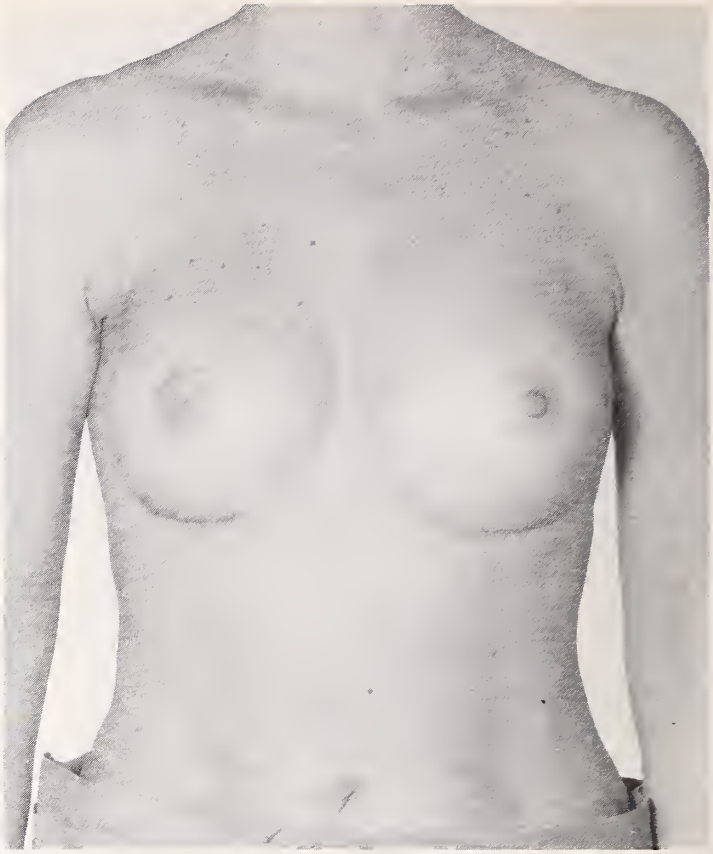


Figure 2B. A one-year postoperative view of the same patient following a two-stage reconstruction and nipple areola reconstruction.

adjustments will have to be made in the opposite breast to achieve symmetry. At the time of the removal of the tissue expander, in the ideal situation, nipple areolar reconstruction can be carried out as well as adjustment of the skin envelope to match the opposite breast so a symmetrical appearance is obtained.

Delayed Reconstruction

A variety of techniques are available for delayed breast reconstruction. In the patient who has adequate skin and muscle coverage, reconstruction can be carried out with the placement of a subserratus, subpectoral silicone gel prosthesis if the opposite breast is not too large. In a patient with a larger opposite breast with adequate skin and muscle coverage, a tissue expander is placed in a submuscular position. These prostheses are generally inserted through an inframammary incision. This conservative technique is the most common method of breast reconstruction. An adjustment of the opposite breast can be made by mastopexy, reduction, augmentation, or subcutaneous mastectomy, depending on the medical and surgical needs of the patient (figure 2A, B).

In many situations, when there is inadequate muscle or skin coverage, tissue must be brought in from a distant area to augment the deficiency and allow for an adequate breast size. There are two basic techniques used to bring in distant tissue: the latissimus dorsi myocutaneous flap and the rectus abdominus myocutaneous flap.[12-18]

The latissimus dorsi musculocutaneous flap provides a large triangular area of latissimus muscle across the back. A significant area of skin overlying the muscle may also be transferred. The muscle allows for replacement of muscle coverage which may have been lost at the time of the initial mastectomy and also augments the locally available skin on the anterior chest area. This flap is extremely reliable when rotated on its primary vascular pedicle, the thoraco-dorsal artery and vein. A prosthesis may be inserted immediately to provide for a single-stage replacement of tissue deficiencies and breast mound reconstruction (figure 3A, B, C, D).

The use of the rectus abdominus musculocutaneous flap in breast reconstruction produces excellent results in the appropriately selected patient. This flap usually obviates the need for a silicone prosthesis and eliminates the inherent problems with the possible development of late capsular formation and firmness; however, this flap is the most involved and complicated of the breast reconstruction procedures. The method results in a large amount of tissue which allows for the complete reconstruction of the breast without the use of a silicone prosthesis.

Unfortunately, many patients have had prior abdominal procedures which limit the use of this type of reconstruction. In obese patients, it is difficult to secure an adequate blood supply to the transferred tissue, and yet in extremely thin patients it is difficult to obtain a sufficient amount of tissue

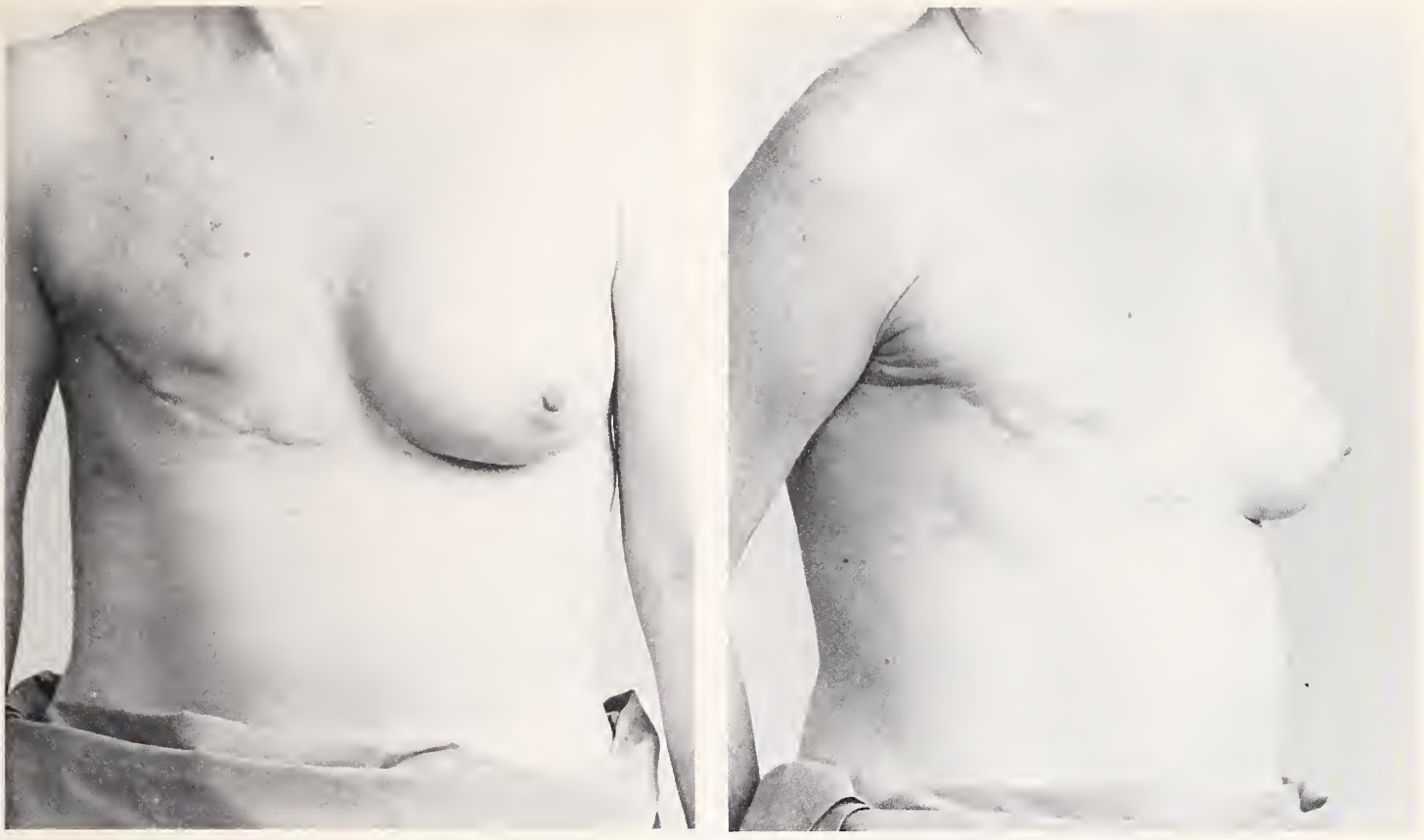


Figure 3A, B. A 43-year-old patient is shown six months after a modified radical mastectomy for a ductal carcinoma.

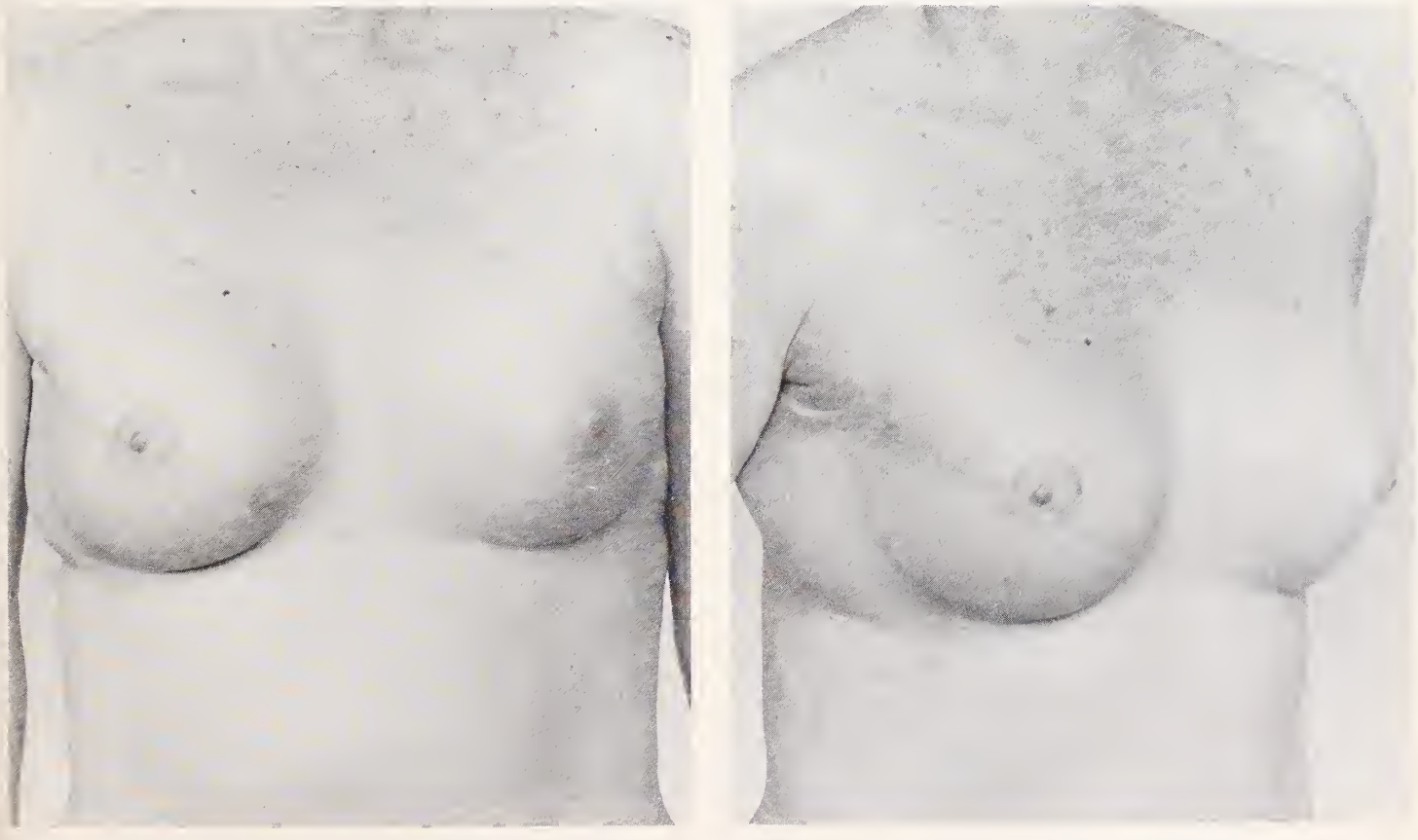


Figure 3C, D. The same patient is shown one year later. the breast has been reconstructed using a latissimus dorsi musculocutaneous flap, with a groin graft for areola reconstruction, and nipple sharing. A left subcutaneous mastectomy was also carried out.

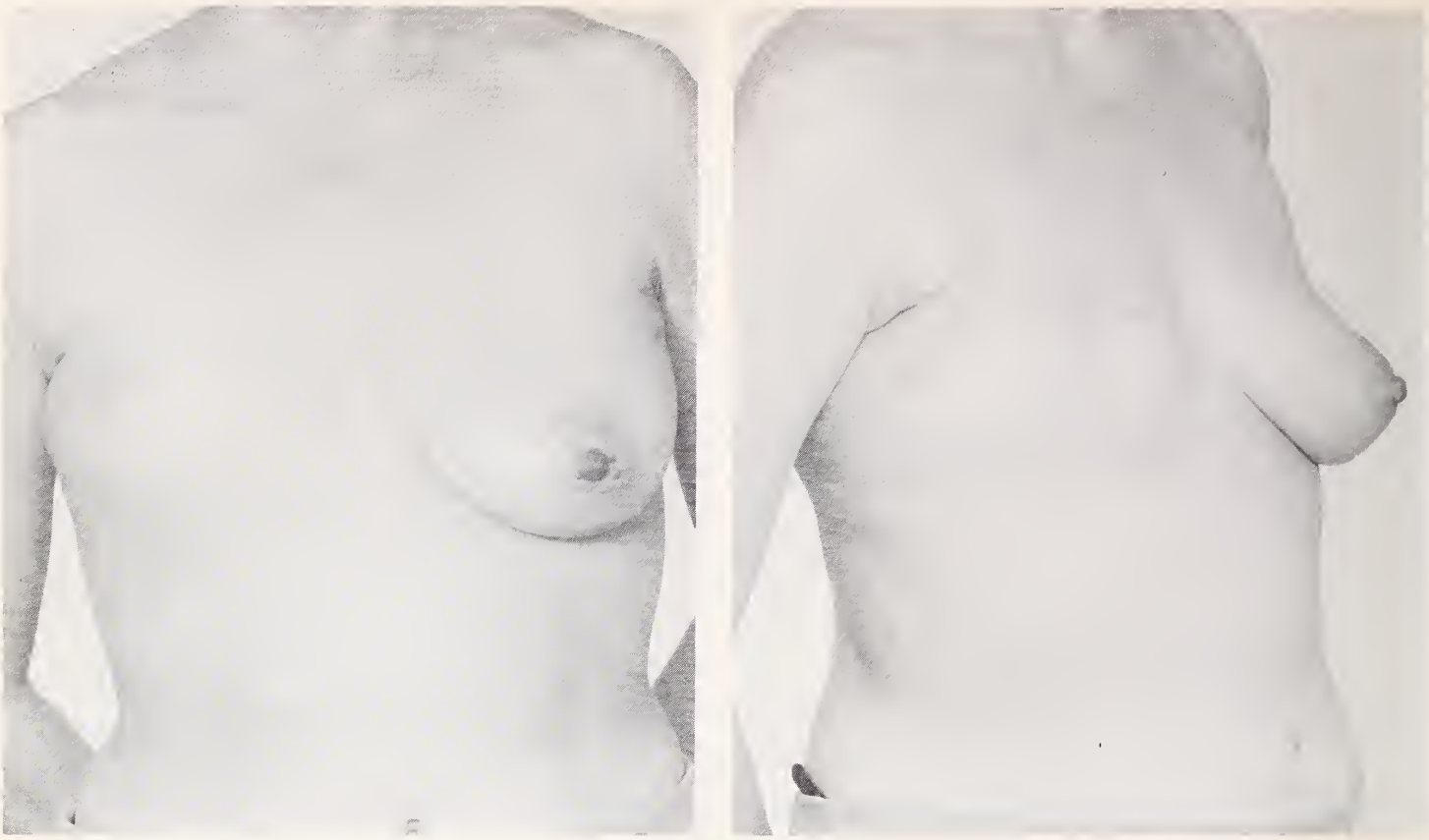


Figure 4A, B. A 48-year-old patient is shown 8 months after a modified radical mastectomy for an infiltrating lobular carcinoma of the right breast. There was a lack of sufficient skin and muscle for the standard reconstruction.

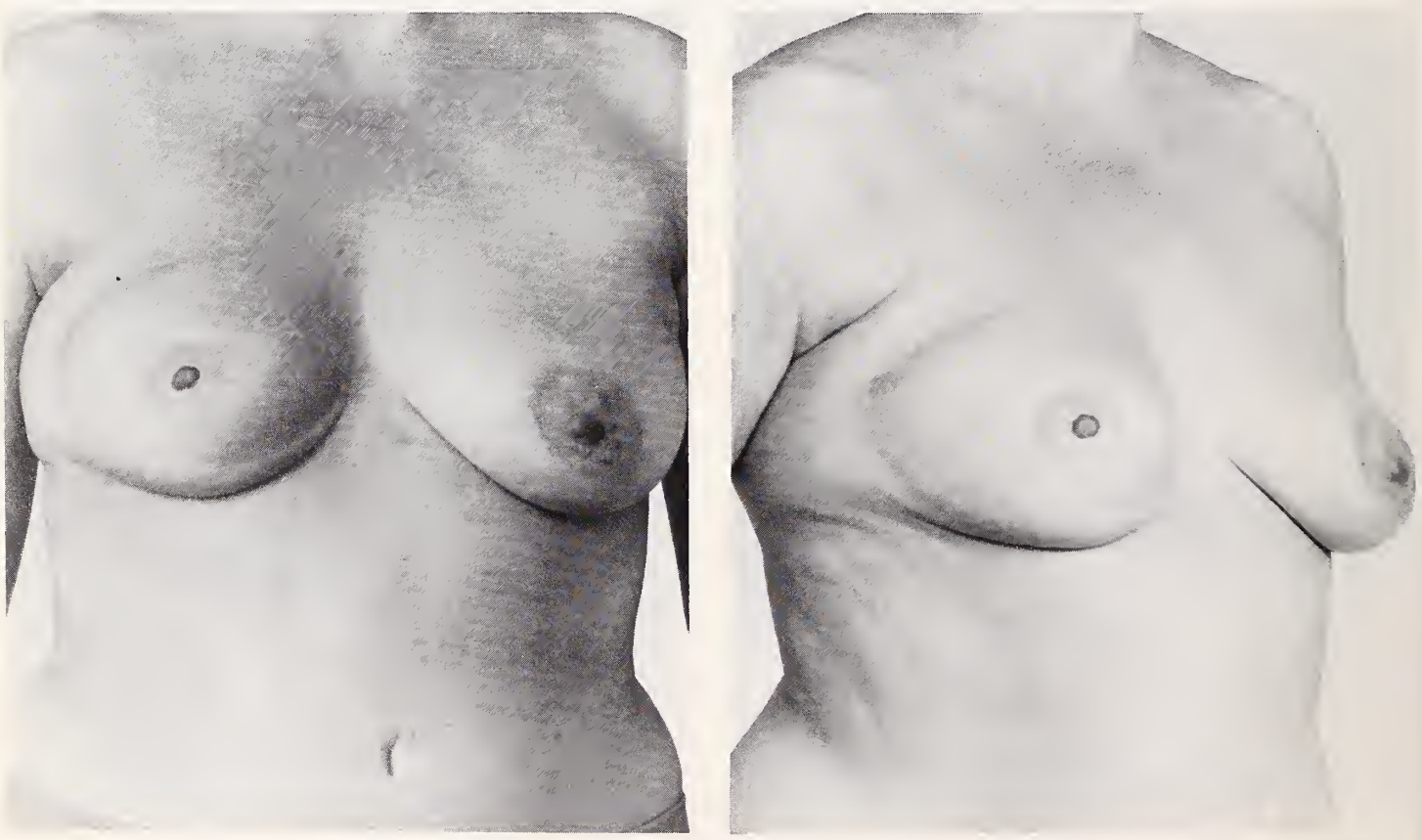


Figure 4C, D. The same patient is shown three and ε half years after reconstruction utilizing a rectus abdominus musculocutaneous flap with construction of the areola by means of a groin graft and nipple sharing procedure for construction of the nipple.

to reconstruct the breast mound. An ellipse of lower abdominal skin is elevated on one or both rectus abdominus muscles, and after transfer to the chest area, the flap is folded and inset to create a breast mound. The abdominal wall defect and the skin defect of the lower abdominal wall are closed directly (figure 4A, B, C, D).

Nipple Areola Reconstruction

Nipple areola reconstruction is generally carried out as a final step in breast reconstruction. Prior to nipple reconstruction, the breast mound should be symmetrical and the settling process completed to allow for stable long-term nipple positioning. The areola is usually constructed by the placement of a full-thickness skin graft which is obtained from the groin area. The actual nipple can be constructed either by a local skin flap or by nipple sharing, in which the opposite nipple is halved and transported as a composite graft. In certain situations, the nipple itself may be tattooed to give it a better color match with the opposite nipple.[17,18]

Discussion

At this time there are a variety of techniques available for breast reconstruction. In any individual patient, several different methods might be used to reconstruct the breast. There is no single best technique. Instead, the selection of the best method of reconstruction should be made on an individual basis. Many a patient with breast cancer will develop recurrent disease during her lifetime. Breast reconstruction has not interfered with the detection of recurrent breast cancer and has no bearing on the destiny of the patient.[19,20]

Psychological studies have shown that there is a definite psychological benefit derived from breast reconstruction. Those women who submitted to immediate breast reconstruction exhibited a better adjustment to the loss of a breast than those who did not.[5] ■

References

1 American Cancer Society. Cancer facts and figures. New York: American Cancer Society, 1986.

2 Goldberg P, Stolzman M, and Goldbert H. Psychological considerations in breast reconstruction. Annals of Pl Surgery 1984;13:38.

3 Rassaby J, and Hill D. Patients' perceptions of breast reconstruction after mastectomy. Med J of Australia 1983;2:173.

4 Schain W, Wellisch D, Pasnau R, and Landsverk J. The sooner the better: a study of psychological factors in women undergoing immediate versus delayed breast reconstruction. Am J Psychiatry 1985;142:40.

5 Wellisch D, Schain W, Noone RB, and Little J, III. Psychosocial correlates of immediate versus delayed reconstruction of the breast. Pl & Recon Surg 1985;76:713.

6 Jonsson C, Engman K, and Asplund O. Psychological aspects of breast reconstruction following mastectomy. Scand J Plast Surg 1984;18:317.

7 Georgiade G, Riefkohl R, Cox E, et al. Long-term clinical outcome of immediate reconstruction after mastectomy. Plastic & Recon Surg. 1985;76:415.

8 Georgiade G, Georgiade N, McCarty K, Jr, et al. Modified radical mastectomy with immediate reconstruction for carcinoma of the breast. Ann Surg 1981;193:565.

9 Wilkinson LH, Peloso O and Dail W, Jr. Modified radical mastectomy with immediate breast reconstruction. Arch Surg 1982;117:579.

10 Chisholm EM, Marr S, Macfie J, et al. Post-mastectomy breast reconstruction using the inflatable tissue expander. Br J Surg 1986;73:817.

11 Becker H. Breast reconstruction using an inflatable breast implant with detachable reservoir. Pl & Recon Surg 1983;73:678.

12 Georgiade G, Georgiade N, Riefkohl R, et al. Breast reconstruction following mastectomy. N C Med J 1984;45:81.

13 Apelberg D, Laub D, Maser M, and Lash H. Submuscular breast reconstruction — indications and techniques. Annals of Pl Surg 1981;7:213.

14 Hartrampf C, Scheflan M, and Black P. Breast reconstruction with a transverse abdominal island flap. Pl & Recon Surg 1982;69:216.

15 Mendelson BC. Latissimus dorsi breast reconstruction — refinement and results. Brit J of Surg 1983;70:145.

16 Bostwick S, III. Aesthetic & reconstructive breast surgery. St. Louis: Mosby, 1983.

17 Daniel R, and Maxwell P. Breast reconstruction following mastectomy. Advances in Surg 1983;16:49.

18 Woods JE. Breast reconstruction: current state of the art. Mayo Cl Proc 1986;61:579.

19 Dowden R, Blanchard J, and Greenstreet R. Breast reconstruction — selection, timing & local recurrence. Ann Pl Surg 1983;10:265.

20 Mendelson BC. Local recurrence of breast cancer: its significance in relation to breast reconstruction. Aust N Z Surg 1982;52:59.



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Follow-Up of the Breast Cancer Patient

Donald R. Lannin, M.D.

Although diagnosis and treatment of breast cancer patients receives much attention, follow-up of the breast cancer patient after treatment is frequently ignored or performed in a haphazard fashion. It is important that the breast cancer patient be fully rehabilitated and lead a normal and unrestricted life, but it is equally important that she and her physicians realize that she is at increased risk for certain problems and that she will require specialized follow-up for the rest of her life.

One of the reasons follow-up is frequently disorganized is that there are usually several physicians involved in the care of the breast cancer patient. In addition to the primary care physician and the surgeon, there is often a medical oncologist, a radiation therapist, and a plastic surgeon. Sometimes each of these specialists duplicates follow-up care, but other times no one takes responsibility as each assumes the other is doing it. It is important that the follow-up be planned among these specialists so that the patient receives coordinated and cost-effective care.

There are two main goals in follow-up of the breast cancer patient in addition to ensuring adequate rehabilitation from the effects of the cancer and its treatment. First is to detect recurrent disease at a point when it may still be curable or at least most effectively palliated. Second is to detect associated new primary cancers at a stage when they have a high chance of being cured. This article will briefly discuss each of these goals.

When and Where is Breast Cancer Likely to Recur?

In order to detect recurrent disease in an efficient and cost-effective manner, the physician must have a realistic idea of the probability of recurrence. Breast cancer is somewhat different from most other cancers as it can recur quite late. Nevertheless, the majority of patients who suffer recurrence will do so within the first five years. An additional 10% of breast cancers will recur at between 5 and 10 years and another 5% after 10 years. If all stages are considered together, the chances of recurrence are 35% at 5 years, 45% at 10 years, and 50% at 20 years. However, the prognosis depends markedly on the size of the primary tumor, the presence or absence of involved axillary lymph nodes, the age and race of the patient, the presence of hormone receptors in the tumor, and the histological type of the tumor. If the lymph nodes are negative, the chance of recurrence is 20% at 10 years; if positive, 70% at 10 years. All these factors must be taken into account in assessing an individual patient's likelihood of recurrence.

Knowledge of the anatomic patterns of recurrence aids the physician in planning follow-up care. About 5% to 10% of patients will develop a local recurrence — i.e., a recurrence in the mastectomy scar, in the axilla, or in the remainder of the breast if the patient was treated with partial mastectomy, axillary dissection, and radiation therapy. However, the majority of patients in whom disease recurs will develop distant metastases. These occur in the following order of frequency: bone; lungs; soft tissue; liver; and brain.

Detection of Recurrence

Follow-up should be directed toward detecting recurrent disease at a stage when it is still curable or when it is most effectively palliated. There is little benefit in frequent exhaustive tests which can only diagnose incurable disease. The plan for follow-up should be individualized for each patient to take into account her risk for certain types of recurrence. For example, a woman who had a small tumor and negative axillary lymph nodes is at relatively low risk for recurrence and it would be a mistake to obtain frequent, expensive x-rays or scans if she remains asymptomatic. On the other hand, it must be recognized that a woman with a large primary tumor is at high risk for local recurrence, irrespective of her risk for systemic disease, and therefore frequent physical exams looking for local recurrence would be indicated.

From Department of Surgery, Assistant Professor and Chief of Surgical Oncology, East Carolina University School of Medicine, Greenville 27858.

The following few paragraphs provide some general guidelines for follow-up of women with Stage I or II disease who have received curative treatment.

Over 75% of recurrent breast cancer is detected by history and physical exam alone. Usually this should be performed every three to four months for the first year or two, and every six months following this. History should be particularly directed toward symptoms of bone pain, shortness of breath, weight loss, or neurological changes. Physical exam should be directed toward any evidence of local recurrence in the surgical scar, axilla, or supraclavicular lymph nodes, as well as evidence of pleural effusion or hepatomegaly. If the patient has been treated by partial mastectomy, axillary dissection, and radiation therapy, it is especially important to examine the remainder of the breast for local recurrence since current evidence suggests that these patients may still be cured by mastectomy. Examination of the opposite breast for a new primary is also important and will be discussed below.

Evaluation of serum calcium, alkaline phosphatase, and hematocrit are relatively inexpensive and many authorities recommend they be obtained every six to 12 months. Carcinoembryonic antigen may be helpful in patients undergoing treatment for metastatic disease, but it is not worthwhile for following asymptomatic patients. Most authorities recommend yearly mammograms and chest x-rays for anyone who has had breast cancer. Bone scans and CT scans may be indicated in patients with suggestive symptoms, but are not worthwhile to screen asymptomatic patients. They are expensive and have a relatively high incidence of false positives and false negatives. Furthermore, when positive, they indicate incurable disease and there is no evidence that palliation is improved by starting treatment before the disease becomes clinically apparent.

Detection of Associated New Primary Cancers

Follow-up of breast cancer patients should be directed toward early detection of associated new primaries as well as toward detection of recurrent disease. A patient who has had a breast cancer in one breast has at least a 10% chance of developing a new primary in the opposite breast. In addition, there is a slightly increased risk of cancer of the colon, endometrium, and ovary. Emphasis should be placed on detecting these malignancies early when they have an extremely high cure rate. New primary breast cancer can be detected most effectively by a careful physical examination of the breast at each visit, by yearly mammograms, and by encouraging the patient to perform monthly breast self examination. Carcinoma of the colon can be detected by rectal examination, sigmoidoscopy and stool guaiac determination. ■

References

1 Burkett FE, Scanlon EF, Garces RM, et al. The value of bone scans in the management of patients with carcinoma of the breast. Surg Gynecol Obstet 1979;149:523.

2 Horton J. Follow-up of breast cancer patients. Cancer 1984;53:790-7.

3 Humphrey LJ, Eiseman B. Breast cancer. In Eiseman B, Robinson WA, Steele G, eds., Follow-up of the cancer patient. New York: Thieme-Stratton, 1982, pp.111-6.

4 Lee YN. Carcinoembryonic antigen as a monitor of recurrent breast cancer. J Surg Oncol 1982;20:109-14.

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Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: **Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired**. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy**. Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of triamterene and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Angiotensin-converting enzyme (ACE) inhibitors can elevate serum potassium; use with caution with 'Dyazide'. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function. Thiazides may add to or potentiate the action of other antihypertensive drugs. Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

BRS-DZ:L42

In Hypertension*... When You Need to Conserve K^+

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The unique red and white Dyazide® capsule: Your assurance of SK&F quality.



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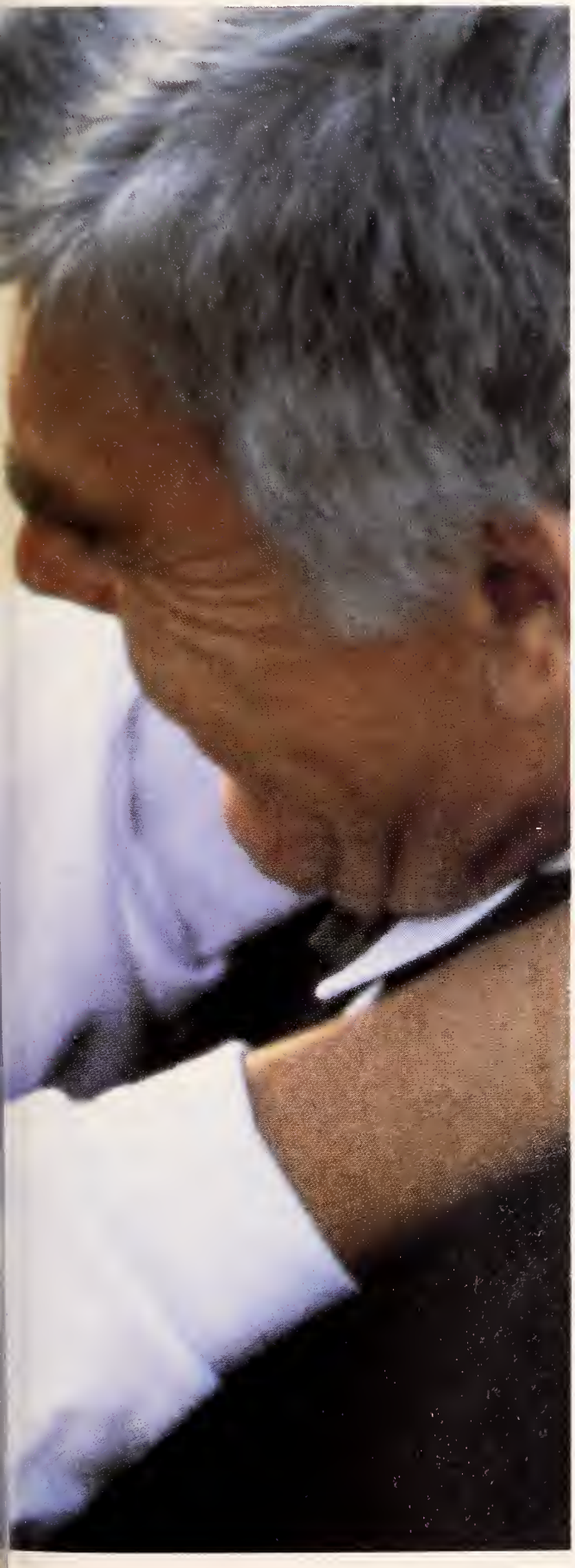
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There's never been a better time for her



nd PREMARIN®



Proven benefits beyond relief of vasomotor symptoms

No other estrogen proven effective for osteoporosis

Only conjugated estrogens tablets have established efficacy in both osteoporosis[1] and vasomotor symptoms* at 0.625 mg/day. No other estrogen, oral or transdermal, has established clinical evidence or minimum effective dose in both indications.

No estrogen proven safer

PREMARIN is the most extensively tested estrogen, with an unsurpassed record of long-term safety.
And clinical evidence shows a significantly reduced risk of endometrial hyperplasia when cycled with a progestin.[2]

PREMARIN®
(conjugated estrogens tablets)

Most trusted for more reasons

*PREMARIN is indicated for moderate-to-severe vasomotor symptoms.

Please see following page for brief summary of prescribing information.

For moderate-to-severe vasomotor symptoms and for osteoporosis

PREMARIN®
(conjugated estrogens tablets)



0.3 mg 0.625 mg 0.9 mg 1.25 mg 2.5 mg

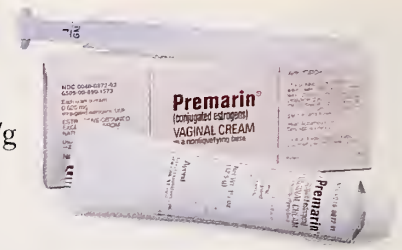
The appearance of these tablets is a trademark of Ayerst Laboratories.

For atrophic vaginitis

PREMARIN®
(conjugated estrogens)

Vaginal Cream

0.625 mg/g



BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION AND PATIENT INFORMATION, SEE PACKAGE CIRCULARS.)*

PREMARIN® Brand of conjugated estrogens tablets, USP
PREMARIN® Brand of conjugated estrogens Vaginal Cream, in a nonliquefying base

1. ESTROGENS HAVE BEEN REPORTED TO INCREASE THE RISK OF ENDOMETRIAL CARCINOMA.
Three independent, case-controlled studies have reported an increased risk of endometrial cancer in postmenopausal women exposed to exogenous estrogens for more than one year. This risk was independent of the other known risk factors for endometrial cancer. These studies are further supported by the finding that incidence rates of endometrial cancer have increased sharply since 1969 in eight different areas of the United States with population-based cancer reporting systems, an increase which may be related to the rapidly expanding use of estrogens during the last decade. The three case-controlled studies reported that the risk of endometrial cancer in estrogen users was about 4.5 to 13.9 times greater than in nonusers. The risk appears to depend on both duration of treatment and on estrogen dose. In view of these findings, when estrogens are used for the treatment of menopausal symptoms, the lowest dose that will control symptoms should be utilized and medication should be discontinued as soon as possible. When prolonged treatment is medically indicated, the patient should be reassessed on at least a semi-annual basis to determine the need for continued therapy. Although the evidence must be considered preliminary, one study suggests that cyclic administration of low doses of estrogen may carry less risk than continuous administration; it therefore appears prudent to utilize such a regimen. Close clinical surveillance of all women taking estrogens is important. In all cases of undiagnosed persistent or recurring abnormal vaginal bleeding, adequate diagnostic measures should be undertaken to rule out malignancy. There is no evidence at present that "natural" estrogens are more or less hazardous than "synthetic" estrogens at equi-estrogenic doses.
2. ESTROGENS SHOULD NOT BE USED DURING PREGNANCY.
The use of female sex hormones, both estrogens and progestogens, during early pregnancy may seriously damage the offspring. It has been shown that females exposed in utero to diethylstilbestrol, a nonsteroidal estrogen, have an increased risk of developing in later life, a form of vaginal or cervical cancer that is ordinarily extremely rare. This risk has been estimated as not greater than 4 per 1,000 exposures. Furthermore, a high percentage of such exposed women (from 30% to 90%) have been found to have vaginal adenosis, epithelial changes of the vagina and cervix. Although these changes are histologically benign, it is not known whether they are precursors of malignancy. Although similar data are not available with the use of other estrogens, it cannot be presumed they would not induce similar changes. Several reports suggest an association between intrauterine exposure to female sex hormones and congenital anomalies, including congenital heart defects and limb-reduction defects. One case-controlled study estimated a 4.7-fold increased risk of limb-reduction defects in infants exposed in utero to sex hormones (oral contraceptives, hormone withdrawal tests for pregnancy, or attempted treatment for threatened abortion). Some of these exposures were very short and involved only a few days of treatment. The data suggest that the risk of limb-reduction defects in exposed fetuses is somewhat less than 1 per 1,000. In the past, female sex hormones have been used during pregnancy in an attempt to treat threatened or habitual abortion. There is considerable evidence that estrogens are ineffective for these indications, and there is no evidence from well-controlled studies that progestogens are effective for these uses. If PREMARIN is used during pregnancy, or if the patient becomes pregnant while taking this drug, she should be apprised of the potential risks to the fetus, and the advisability of pregnancy continuation.

DESCRIPTION: PREMARIN (conjugated estrogens, USP) contains a mixture of estrogens, obtained exclusively from natural sources, blended to represent the average composition of material derived from pregnant mares' urine. It contains estrone, equilin, and 17α-dihydroequilin, together with smaller amounts of 17α-estradiol, equilenin, and 17α-dihydroequilenin as salts of their sulfate esters. Tablets are available in 0.3 mg, 0.625 mg, 0.9 mg, 1.25 mg, and 2.5 mg strengths of conjugated estrogens. Cream is available as 0.625 mg conjugated estrogens per gram.

INDICATIONS AND USAGE: PREMARIN (conjugated estrogens tablets, USP): Moderate-to-severe *vasomotor* symptoms associated with the menopause. (There is no evidence that estrogens are effective for nervous symptoms or depression without associated vasomotor symptoms and they should not be used to treat such conditions.) Osteoporosis (abnormally low bone mass). Atrophic vaginitis. Kraurosis vulvae. Female castration.

PREMARIN (conjugated estrogens) Vaginal Cream is indicated in the treatment of atrophic vaginitis and kraurosis vulvae.

PREMARIN HAS NOT BEEN SHOWN TO BE EFFECTIVE FOR ANY PURPOSE DURING PREGNANCY AND ITS USE MAY CAUSE SEVERE HARM TO THE FETUS (SEE BOXED WARNING).

Concomitant Progestin Use: The lowest effective dose appropriate for the specific indication should be utilized. Studies of the addition of a progestin for 7 or more days of a cycle of estrogen administration have reported a lowered incidence of endometrial hyperplasia. Morphological and biochemical studies of the endometrium suggest that 10 to 13 days of progestin are needed to provide maximal maturation of the endometrium and to eliminate any hyperplastic changes. Whether this will provide protection from endometrial carcinoma has not been clearly established. There are possible additional risks which may be associated with the inclusion of progestin in estrogen replacement regimens. (See PRECAUTIONS.) The choice of progestin and dosage may be important; product labeling should be reviewed to minimize possible adverse effects.

CONTRAINDICATIONS: Estrogens should not be used in women (or men) with any of the following conditions: 1. Known or suspected cancer of the breast except in appropriately selected patients being treated for metastatic disease. 2. Known or suspected estrogen-dependent neoplasia. 3. Known or suspected pregnancy (see Boxed Warning). 4. Undiagnosed abnormal genital bleeding. 5. Active thrombophlebitis or thromboembolic disorders. 6. A past history of thrombophlebitis, thrombosis, or thromboembolic disorders associated with previous estrogen use (except when used in treatment of breast or prostatic malignancy).

WARNINGS: Estrogens have been reported to increase the risk of endometrial carcinoma (see Boxed Warning). However, a recent large, case-controlled study indicated no increase in risk of breast cancer in postmenopausal women. A recent study has reported a 2- to 3-fold increase in the risk of surgically confirmed gallbladder disease in women receiving postmenopausal estrogens.

Adverse effects of oral contraceptives may be expected at the larger doses of estrogen used to treat prostatic or breast cancer or postpartum breast engorgement; it has been shown that there is an increased risk of thrombosis in men receiving estrogens for prostatic cancer and women for postpartum breast engorgement. Users of oral contraceptives have an increased risk of diseases, such as thrombophlebitis, pulmonary embolism, stroke, and myocardial infarction. Cases of retinal thrombosis, mesenteric thrombosis, and optic neuritis have been reported in oral contraceptive users. An increased risk of postsurgery thromboembolic complications has also been reported in users of oral contraceptives. If feasible, estrogen should be discontinued at least 4 weeks before surgery of the type associated with an increased risk of thromboembolism, or during periods of prolonged immobilization. Estrogens should not be used in persons with active thrombophlebitis, thromboembolic disorders, or in persons with a history of such disorders in association with estrogen use. They should be used with caution in patients with cerebral vascular or coronary artery disease. Large doses (5 mg conjugated estrogens per day), comparable to those used to treat cancer of the prostate and breast, have been shown to increase the risk of nonfatal myocardial infarction, pulmonary embolism, and thrombophlebitis. When doses of this size are used, any of the thromboembolic and thrombotic adverse effects should be considered a clear risk.

Benign hepatic adenomas should be considered in estrogen users having abdominal pain and tenderness, abdominal mass, or hypovolemic shock. Hepatocellular carcinoma has been reported in women taking estrogen-containing oral contraceptives. Increased blood pressure may occur with use of estrogens in the menopause and blood pressure should be monitored with estrogen use. A worsening of glucose tolerance has been observed in patients on estrogen-containing oral contraceptives. For this reason, diabetic patients should be carefully observed. Estrogens may lead to severe hypercalcemia in patients with breast cancer and bone metastases.

PRECAUTIONS: Physical examination and a complete medical and family history should be taken prior to the initiation of any estrogen therapy with special reference to blood pressure, breasts, abdomen, and pelvic organs, and should include a Papanicolaou smear. As a general rule, estrogen should not be prescribed for longer than one year without another physical examination being performed. Conditions influenced by fluid retention, such as asthma, epilepsy, migraine, and cardiac or renal dysfunction, require careful observation. Certain patients may develop manifestations of excessive estrogenic stimulation, such as abnormal or excessive uterine bleeding, mastodynia, etc. Prolonged administration of unopposed estrogen therapy has been reported to increase the risk of endometrial hyperplasia in some patients. Oral contraceptives appear to be associated with an increased incidence of mental depression. Patients with a history of depression should be carefully observed. Pre-existing uterine leiomyomata may increase in size during estrogen use. The pathologist should be advised of estrogen therapy when relevant specimens are submitted. If jaundice develops in any patient receiving estrogen, the medication should be discontinued while the cause is investigated. Estrogens should be used with care in patients with impaired liver function, renal insufficiency, metabolic bone diseases associated with hypercalcemia, or in young patients in whom bone growth is not yet complete. If concomitant progestin therapy is used, potential risks may include adverse effects on carbohydrate and lipid metabolism.

The following changes may be expected with larger doses of estrogen:

a. Increased sulfobromophthalein retention.

b. Increased prothrombin and factors VII, VIII, IX, and X; decreased antithrombin 3; increased norepinephrine-induced platelet aggregability.

c. Increased thyroid binding globulin (TBG) leading to increased circulating total thyroid hormone, as measured by PBI, T_4 by column, or T_4 by radioimmunoassay. Free T_3 resin uptake is decreased, reflecting the elevated TBG; free T_4 concentration is unaltered.

d. Impaired glucose tolerance.

e. Decreased pregnanediol excretion.

f. Reduced response to metyrapone test.

g. Reduced serum folate concentration.

h. Increased serum triglyceride and phospholipid concentration.

As a general principle, the administration of any drug to nursing mothers should be done only when clearly necessary since many drugs are excreted in human milk.

Long-term, continuous administration of natural and synthetic estrogens in certain animal species increases the frequency of carcinomas of the breast, cervix, vagina, and liver. However, in a recent, large case-controlled study of postmenopausal women there was no increase in risk of breast cancer with use of conjugated estrogens.

ADVERSE REACTIONS: The following have been reported with estrogenic therapy, including oral contraceptives: breakthrough bleeding; spotting; change in menstrual flow; dysmenorrhea; premenstrual-like syndrome; amenorrhea during and after treatment; increase in size of uterine fibromyomata; vaginal candidiasis; change in cervical erosion and in degree of cervical secretion; cystitis-like syndrome; tenderness, enlargement, secretion (of breasts); nausea, vomiting, abdominal cramps, bloating; cholestatic jaundice; chloasma or melasma which may persist when drug is discontinued; erythema multiforme; erythema nodosum; hemorrhagic eruption; loss of scalp hair; hirsutism; steepening of corneal curvature; intolerance to contact lenses; headache, migraine, dizziness, mental depression, chorea; increase or decrease in weight; reduced carbohydrate tolerance; aggravation of porphyria; edema; changes in libido.

ACUTE OVERDOSAGE: May cause nausea, and withdrawal bleeding may occur in females.

DOSAGE AND ADMINISTRATION:

PREMARIN® Brand of conjugated estrogens tablets, USP

1. *Given cyclically for short-term use only.* For treatment of moderate-to-severe *vasomotor* symptoms, atrophic vaginitis, or kraurosis vulvae associated with the menopause (0.3 mg to 1.25 mg or more daily). The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible. Administration should be cyclic (eg, three weeks on and one week off). Attempts to discontinue or taper medication should be made at three- to six-month intervals.

2. *Given cyclically:* Osteoporosis. Female castration. Osteoporosis —0.625 mg daily. Administration should be cyclic (eg, three weeks on and one week off). Female castration—1.25 mg daily, cyclically. Adjust upward or downward according to response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control.

Patients with an intact uterus should be monitored for signs of endometrial cancer and appropriate measures taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

PREMARIN® Brand of conjugated estrogens Vaginal Cream

Given cyclically for short-term use only. For treatment of atrophic vaginitis or kraurosis vulvae.

The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible.

Administration should be cyclic (eg, three weeks on and one week off).

Attempts to discontinue or taper medication should be made at three- to six-month intervals.

Usual dosage range: 2 g to 4 g daily, intravaginally, depending on the severity of the condition.

Treated patients with an intact uterus should be monitored closely for signs of endometrial cancer and appropriate diagnostic measures should be taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

References:

1. Lindsay R, Hart OM, Clark DM: The minimum effective dose of estrogen for prevention of postmenopausal bone loss. *Obstet Gynecol* 1984;63:759-763. **2.** Studd JWW, Thom MH, Paterson MEL, et al: The prevention and treatment of endometrial pathology in postmenopausal women receiving exogenous estrogens, in Pasetto N, Paoletti R, Ambrus JL (eds): *The Menopause and Postmenopause*. Lancaster, England, MTP Press Ltd, 1980, chap 13.

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Letters to the Editor

A comment on Dr. Landis's article

To the Editor:

I read with interest Dr. Landis's article "To Test or Not To Test" (NCMJ 1987;48:357-62), and would like to offer a few comments from my point of view. Several crucial questions have not been addressed:

1 Under 2 (page 358), are there "efficacious preventive maneuvers for the transmission of Human Immunodeficiency Virus (HIV)"? This question was posed but not answered, and of course changes in lifestyle and condom usage do prevent transmission.

2 Does the future burden of suffering of those not yet infected warrant screening so that those who are infected can be urged to prevent transmission? I doubt if voluntary testing will accomplish this. Voluntary exclusion of donors certainly did not protect the blood supply, and mandatory testing of each unit of blood became necessary.

3 Why are we so vigilant to protect the rights of people receiving transfusions while we do not consider the rights of the uninfected in a promiscuous society?

4 Public Health measures have tried to protect the public health in the past. Why is this infectious and contagious disease different? Because of the long latent period between acquisition of HIV infection and clinical deterioration with HIV disease, an attempt to identify contacts and break the chain of spread would have a chance of being effective. Why must we sit back and wait for people to volunteer for testing or to wait for clinical illness?

5 Why are only the cases of HIV disease reported to public health authorities and not the cases of HIV seropositivity? We used to report all cases with positive serological tests for syphilis.

These are hard questions. I agree with Dr. Landis about the expense of mass screening. However, the costs of caring for increased numbers of cases of HIV will be many times larger. It is a horrendous problem but I think we should roll up our sleeves, get to work and do the mass screening.

Janet J. Fischer, M.D.
Professor of Medicine
Associate Professor of Microbiology and Immunology
Department of Medicine
UNC School of Medicine
Chapel Hill 27514

Reply from Dr. Landis

To the Editor:

I appreciate Dr. Fischer's comments and questions concerning HIV testing. The published manuscript was one of three presentations concerning HIV testing presented at the 1987 UNC School of Public Health Alumni Conference; the other two presentations covered ethical issues and public health/implementation considerations of mass testing. My presentation obviously covers only one aspect of the issue, i.e., epidemiologic considerations. Most of Dr. Fischer's comments deal with ethical and legal issues which were covered by Dr. Beauchamp and Mr. Jolly. The inclusion of these other two presentations in the journal would have naturally provided a more comprehensive picture of the complex issue of HIV testing.

The major thrust of my talk, and thus the paper, was to alert physicians to the large number of false positive HIV antibody tests (as high as 42%) likely to occur with a mass screening program. By selecting high-risk populations with a higher prevalence of the infection, the accuracy of the tests is markedly improved. I agree with Dr. Fischer that volunteer testing as the sole public health measure is unlikely to be effective in reducing transmission of HIV. A comprehensive approach of education, "self-efficacy" training, mandatory testing of high-risk groups, safe sex, contact notification, sterile needle distributions, organ donor testing, and vaccine development may all eventually be necessary to halt the epidemic.

I agree with Dr. Fischer that lifestyle changes which include reduction in number of sexual partners and condom usage are certainly the mainstay of preventive maneuvers for the transmission of HIV. I do mention some studies regarding behavior changes: (1)homosexual males who have reduced the number of sexual partners and (2)discordant heterosexual couples where one partner is seropositive who have not uniformly used condoms. I doubt that education and behavioral modification will ever be replaced as a major preventive technique, since the estimated 1.5 to 2 million infected persons are unlikely to become uninfectious even if antiviral agents are able to retard progression to overt AIDS. People must realize that only partial reduction in high-risk sexual behavior still carries a risk of transmission or seroconverting.

Suzanne Landis, M.D.
Department of Epidemiology
School of Public Health
Department of Medicine
University of North Carolina
Chapel Hill 27514

On AIDS transmission

To the Editor:

The definition of knowingly and intentionally transmitting

AIDS as the use of a potentially deadly weapon is receiving increased acceptance. AIDS patients who know that they are communicable and continue their pattern of promiscuous sexual activities are knowingly and intentionally administering a potential lethal injury to an unsuspecting victim. One individual who learned of this retaliated by killing the perpetrator and later utilized his fear, anger, and frustration regarding the assault in his defense. The United States Army is presently conducting trials of several soldiers who continued their sexual activities despite the knowledge of their potentially fatal effects. As a result there has been a great deal of interest in establishing the concept that knowingly and intentionally communicating AIDS to another be defined as a felony. The legal elements of murder are clearly present under such circumstances.

This raises further questions regarding the legal responsibilities of attending physicians who treat AIDS patients who declare to their physician during the course of treatment that they intend to continue their sexual activities despite the clear and imminent danger that they present to others. If and when a competent or or an incompetent individual declares a clear intent to harm other individuals and has the means to do so, it is the obligation of the attending physician in some jurisdictions to warn the specific identified victim or to notify the appropriate legal authorities. Some AIDS patients present with dementia and as a result are unable to make competent decisions. In the case of an incompetent patient there is a duty to institute commitment proceeding, when an individual suffers from a mental disorder and as a result of that disorder becomes a danger to others.

Both competent and incompetent communicable AIDS patients actively engage in prostitution and sell blood. This results in a clear danger to unknown members of the community. In such cases the only recourse is to the criminal justice system for the competent individual and to the mental health system for the incompetent individual. It is readily foreseeable, however, that both hospitals and prisons will increase their resistance to the admission of communicable AIDS patients. Federal policy with guidelines and procedures is therefore urgently needed at this time.

Walter S. Feldman, M.D., J.D., FCLM
6500 Racquet Wood Court
Charlotte 28226

On the recent Blue Cross and Blue Shield of NC advertisement

To the Editor

I am disappointed by your decision to run the recent Blue Cross/Blue Shield PCP advertisement in your July issue. In my opinion it evinces the empty personal lives of many "good doctors."

After an informal poll of my colleagues, I find that I'm not alone in thinking that this ad (which portrays a woman and her two children waiting for their doctor/husband/father to come home) is sexist, antifamily and a selfish medical stance. Families and spouses have by tradition been sacrificed for the needs of patients, and the inability of practitioners and educators to determine the relevant weight of patient's needs versus personal and family needs erodes the idealism students bring to medicine. Families and spouses should be more than neglectable possessions.

Without a doubt the personal sacrifices alluded to in this ad exist and will continue to exist in medicine. I'm not, however, proud of the fact that my family suffers my sacrifices and I would shun recounting this to the public as some badge of courage.

Shame on Blue Cross/Blue Shield for portraying this side of medicine as illustrating quality care and the "good" in doctors.

William Fulcher, M.D.
Snow Hill Medical Center
302 North Greene Street
Snow Hill 28580

Editor's Note:

Mr. James R. Singleton of Blue Cross and Blue Shield of NC has informed us that the "waiting room" ad was shown to a number of physicians in order to test response, and that the response was uniformly positive. He said physicians commented that the ad warmly and accurately pointed out sacrifices that are often unappreciated and overlooked.

Bulletin Board

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October 12-16

Diagnostic Ultrasound: Neurosonology
Place: Winston-Salem
Credit: 7 hours Category I AMA per day
Info: Registrar, Ultrasound Center, Bowman Gray School of Medicine, 300 S. Hawthorne Rd., Winston-Salem 27103. 919/748-4505

October 14-18

NCAFP Annual Scientific Assembly
Place: Asheville
Credit: 18 hours AAFP
Info: Paula Baker, Meeting Coordinator, North Carolina Academy of Family Physicians, P.O. Box 18469, Raleigh 27619. 919/781-6467

October 18-19

Endoscopy and Esophageal Strictures
Place: Research Triangle Park
Credit: 10 hours Category I AMA
Info: Dr. Peter B. Cotton, 919/684-3341

October 19-21

Diagnostic Ultrasound: Arterial & Venous Doppler
Place: Winston-Salem
Credit: 7 hours Category I AMA per day
Info: Registrar, Ultrasound Center, Bowman Gray School of Medicine, 300 S. Hawthorne Rd., Winston-Salem 27103. 919/748-4505

October 20

Men & Reproductive Health — A Shared Responsibility Conference
Place: Durham
Info: Karen Price, Director of Education, Planned Parenthood of Orange County, P.O. Box 3258, Chapel Hill 27514. 919/929-5402

October 22-23

Diagnostic Ultrasound: Urology
Place: Winston-Salem
Credit: 7 hours Category I AMA per day
Info: Registrar, Ultrasound Center, Bowman Gray School of Medicine, 300 S. Hawthorne Rd., Winston-Salem 27103. 919/748-4505

October 23
Dean's CME Program: Excellence in Medical Education
Place: Greenville
Credit: 6 to 7 hours Category 1 AMA
Info: Mary C. Valand, MSW, ACSW, Office of CME, ECU, P.O. Box 7224, Greenville 27835-7224. 919/551-5200

October 26-30
Diagnostic Ultrasound: Echocardiography
Place: Winston-Salem
Credit: 7 hours Category 1 AMA per day
Info: Registrar, Ultrasound Center, Bowman Gray School of Medicine, 300 S. Hawthorne Rd., Winston-Salem 27103. 919/748-4505

October 28-29
5th Annual Stroke Rehabilitation Symposium
Place: Chapel Hill
Info: Martha McLamb or John Bierma, Wake AHEC, 919/755-8295

October 30-31
Lasers in Gynecology
Place: Greenville
Credit: 14.5 Hours Category I AMA
Info: Mary C. Valand, MSW, ACSW, Office of CME, ECU, P.O. Box 7224, Greenville 27835-7224. 919/551-5200

October 30-31
Advances in NonSurgical Therapy of Biliary Calculi
Place: Winston-Salem
Info: Emery C. Miller, M.D., Division of Continuing Education, Bowman Gray School of Medicine, 300 S. Hawthorne Dr., Winston-Salem 27103. 919/748-4450

November 1
What Every Administrator Should Know About Lasers
Place: Greenville
Credit: 6 to 7 hours Category 1 AMA
Info: Mary C. Valand, MSW, ACSW, Office of CME, ECU, P.O. Box 7224, Greenville 27835-7224. 919/551-5200

November 1-4
The Difficult Learner
Place: Rougemont
Credit: 20 hours Category 1 AMA, AAFP
Info: Cindi Easterling, Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878

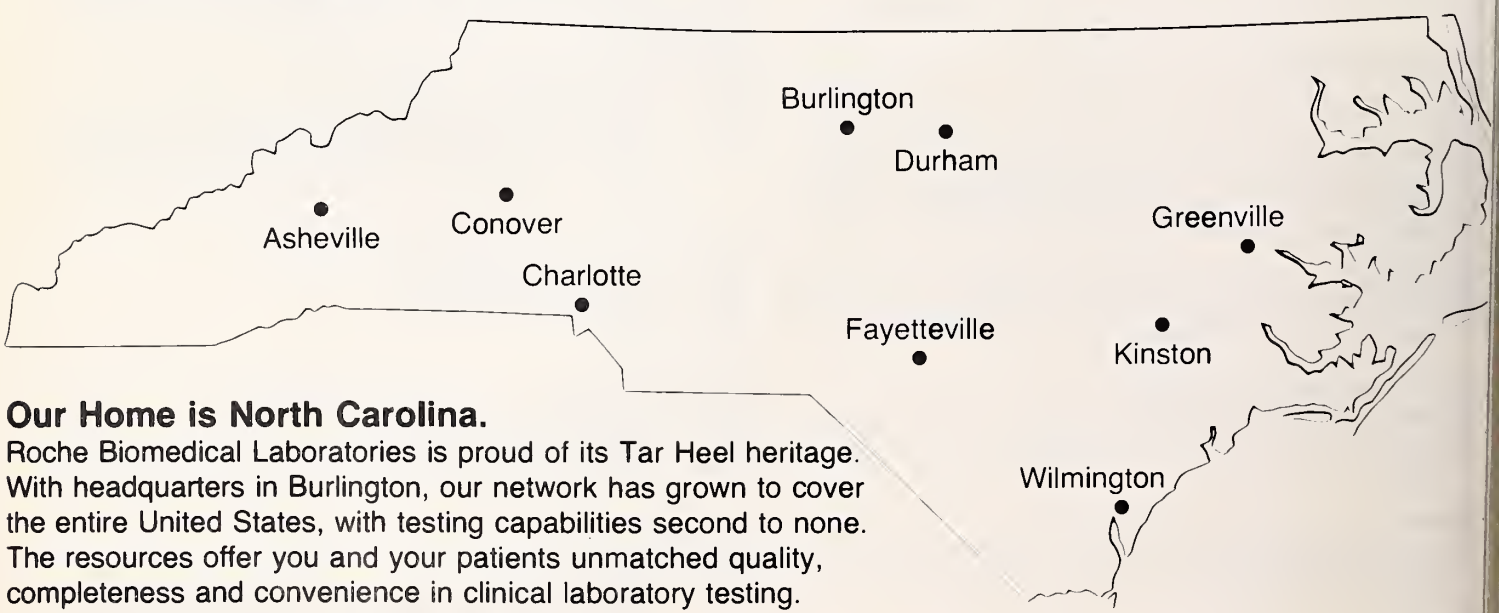
November 13
Pediatric Rehabilitation
Place: Greenville
Credit: 6 to 7 hours Category 1 AMA
Info: Mary C. Valand, MSW, ACSW, Office of CME, ECU, P.O. Box 7224, Greenville 27835-7224. 919/551-5200

December 1
1987 Series — Duke Tuesday
Place: Durham
Credit: 5 hours Category 1 AMA
Info: Cindi Easterling, Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878

December 5
University of North Carolina
Ophthalmology Resident's Day
Place: Chapel Hill
Credit: 6 hours Category 1 AMA
Fee: none
Info: Baird S. Grimson, M.D., Dept. of Ophthalmology, 617 Clinical Sciences Bldg. 229H, University of North Carolina at Chapel Hill, Chapel Hill 27514

December 13-16
Small Group and Lecture Skills
Place: Rougemont
Credit: 20 hours Category 1 AMA, AAFP
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In Memoriam

Arlie H. Westfall, M.D.

Whereas, Arlie H. Westfall, M.D., died on May 22, 1987, after a dedicated and exemplary career as a physician in medicine, and

Whereas, Dr. Arlie H. Westfall was born in Enterprise, West Virginia, and graduated from the Fairmont State College, Fairmont, West Virginia, in 1950. He attended the West Virginia School of Medicine and graduated from the Medical College of Virginia in 1955. He was a resident in obstetrics and gynecology at the Medical College of Virginia.

While serving in the U.S. Army, he practiced at Fort Sill Army Hospital, Fort Wainwright Army Hospital, Fitzsimons General Hospital, and the Medical Center Hospital of Odessa, Texas.

He was a member of the American College of Obstetrics and Gynecology and certified by the American Board of Obstetrics and Gynecology.

Dr. Westfall was a member of the American Medical Association, Southern Medical Association, North Carolina Medical Society, North Carolina Society of Obstetrics and Gynecology, Past President of the Robeson County Medical Society, and at his death was serving as Chief of Surgery at the Southeastern General Hospital, Lumberton, N.C. He was also a charter member of the Southeastern Mental Health Clinic, Physicians Health Plan, and member of the Hudmall-Ware Society in Virginia.

He began the practice of obstetrics and gynecology at the Southeastern General Hospital in 1966 and was an associate of the Lumberton Clinic of Obstetrics and Gynecology.

He was extremely active in his community and was an avid hunter and pilot. He loved fishing, camping, and flying with his family and friends.

Dr. Westfall was a dedicated and energetic physician in the practice of obstetrics and gynecology and was much loved by his patients and colleagues. He was a devoted husband, father, and grandfather.

Whereas, his loss as a leader in our profession and our community, as a friend, and as an excellent physician will leave a vacancy to those who depended on him for advice and counsel; therefore be it

RESOLVED, that the Robeson County Medical Society record its sorrow at the loss of our friend and colleague, and be it further

RESOLVED, that a copy of this resolution be sent to Dr. Westfall's family and the North Carolina Medical Journal.

D.E. Ward, Jr., M.D.
Robeson County Medical Society

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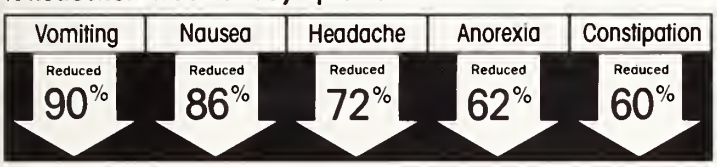
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References: 1. Feighner JP, *et al: Psychopharmacology 61*:217-225, Mar 22, 1979. **2.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving).

***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

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Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.
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Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.
Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.
Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.
Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.
Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.
Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.
Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion.
Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, paralid swelling.
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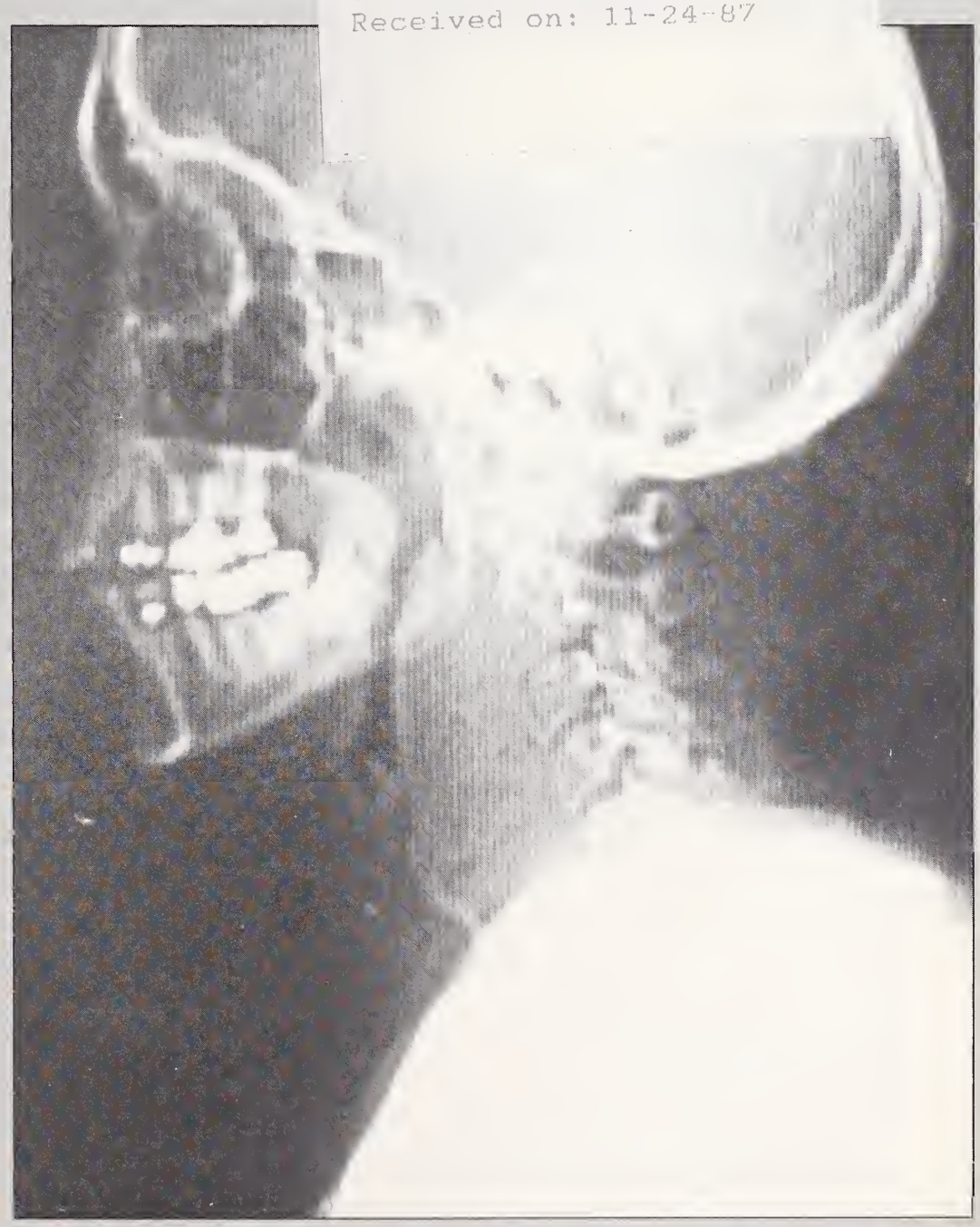
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For Doctors and their Patients

November 1987, Volume 48, Number 11

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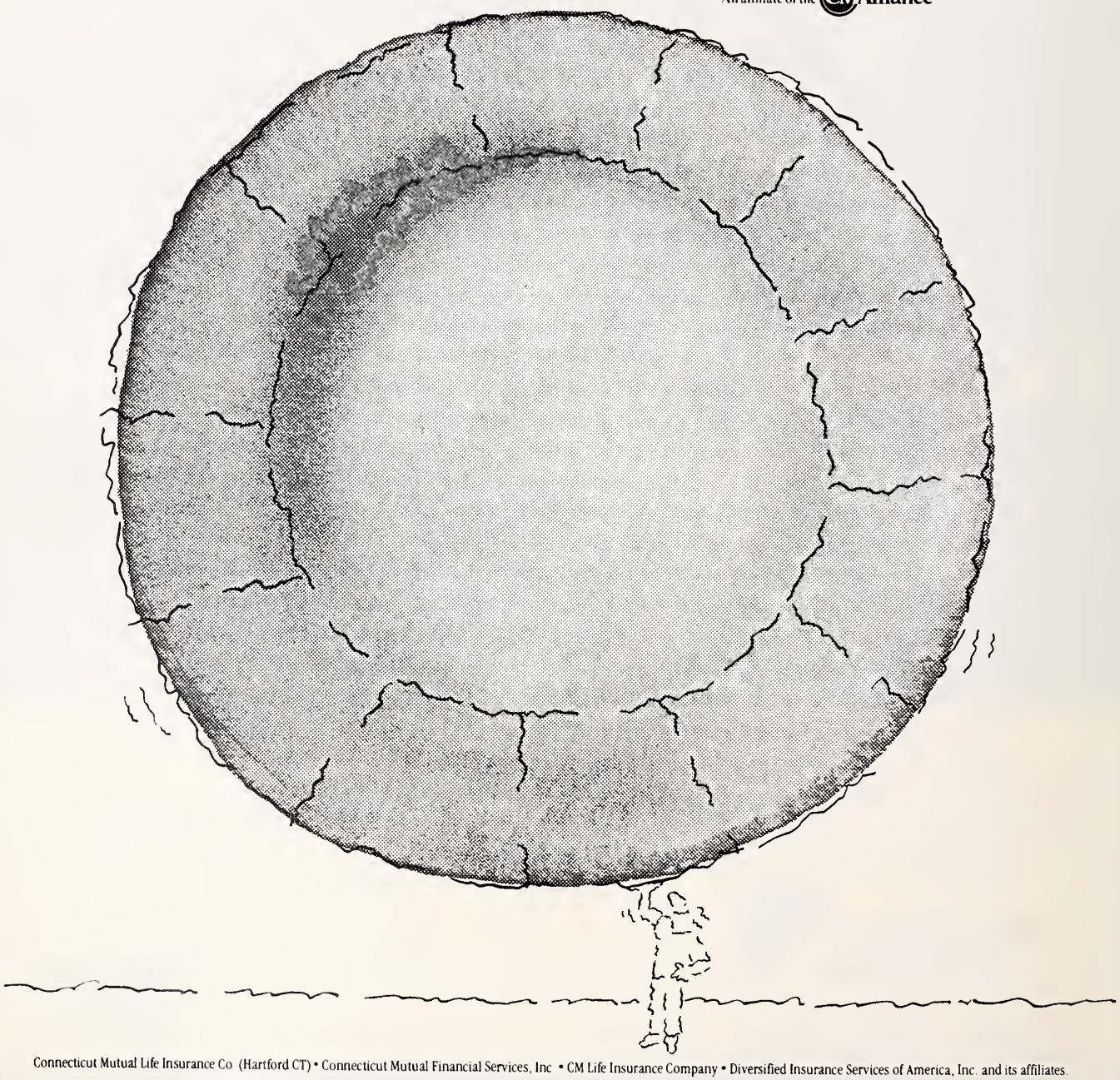
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North Carolina Medical Journal

FOR DOCTORS AND THEIR PATIENTS

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Hashimoto's Thyroiditis Presenting as a Retropharyngeal Mass

Warner M. Burch, M.D.

Current textbooks of endocrinology and thyroidology fail to mention that thyroid disease may present as retropharyngeal masses. This report describes a patient who presented with a large retropharyngeal mass that was thought, preoperatively, to represent an ominous process such as infectious or malignant lymphadenopathy. However, open biopsy of the mass was consistent with Hashimoto's thyroiditis. Hashimoto's thyroiditis is a common form of goitrous hypothyroidism, but its presentation as a retropharyngeal mass is most unusual.

Our 55-year-old white woman complained of increasing fullness on the right side of her neck over the prior six months. She occasionally had difficulty in swallowing food. She denied any neck pain, dyspnea, fever, weight loss, hoarseness, or change in temperature preference, bowel habits, or skin texture. There was no history of head or neck irradiation or family history of thyroid disease.

Her weight was 72 kg; height, 168 cm; blood pressure, 125/80; pulse, 80/min. Positive findings included a 5x7 cm firm mass under the midportion of the right sternocleidomastoid muscle. The mass barely moved on swallowing and was contiguous with the right lobe of the thyroid. The isthmus and left lobe of the thyroid were easily palpable and thought to be minimally enlarged. The oropharynx appeared normal, but a mass was noted arising at the level of the tip of the epiglottis, which protruded anteriorly. The mass was covered by normal mucosa. The vocal cords could not be visualized, but the patient's voice was normal. The remainder of the physical exam was normal.

Laboratory Studies

The patient's hemoglobin was 11.8 gm; hematocrit, 34.5%; RBC, 3.67 million (normochromic and normocytic blood film); and WBC, 5300. The urinalysis, serum electrolytes, serum creatinine, calcium, and phosphorus were normal. The serum cholesterol was 217 mg/dl (normal, 120-230). Thyroid function studies included: T4 (radioimmunoassay), 7.6 μg/dl (normal, 5.5-11.5); T3U, 40.6% (normal, 35-45); FTI, 3.1 (normal, 2.2-4.7). The serum thyroid-stimulating hormone (TSH) was 35.9 μU/ml (normal, 0-10).

X-Ray Studies

Lateral roentgenographs of the neck revealed a large retropharyngeal mass (figure 1, left panel; next page). A barium swallow showed the cervical esophagus to be displaced anteriorly (maximal at the level of C3-4), and there was no evidence of invasion of the esophageal mucosa by the retropharyngeal mass. A technetium scan of the thyroid revealed an enlarged thyroid with the right lobe larger than the left. Areas of increased and decreased tracer accumulation were found. A computed tomogram (CT) showed a homogeneous, retropharyngeal soft tissue mass (see figure 1). The mass was more prominent on the right than on the left and extended from the level of the base of the tongue to the level of the sternoclavicular joints. The retropharyngeal mass compressed the hypopharynx but not the trachea (figure 1, right panel). Note that relatively little soft tissue is anterior to the trachea where the thyroid is located (figure 1, left panel). In view of the bilateral findings, the CT interpretation was read as "suspicious for enlarged lymph nodes probably neoplastic either metastatic disease or primary lymphoma (infectious process less likely)." A comment was made that a primary tumor of the thyroid could not be excluded.

Surgical Procedure

Several attempts to intubate the patient were unsuccessful because of the anterior location and compression of the larynx. Adequate airway was assured by tracheostomy performed under local anesthesia. Once the subcutaneous tissues were divided, dense white appearing tumor mass was encountered overlying the trachea. Following the tracheostomy, general anesthesia was administered. The retropharyngeal mass was exposed and a 1x2 cm biopsy was taken. The mass was contiguous with the thyroid. Small pieces of

From Department of Medicine, Duke University Medical Center, Durham 27710.

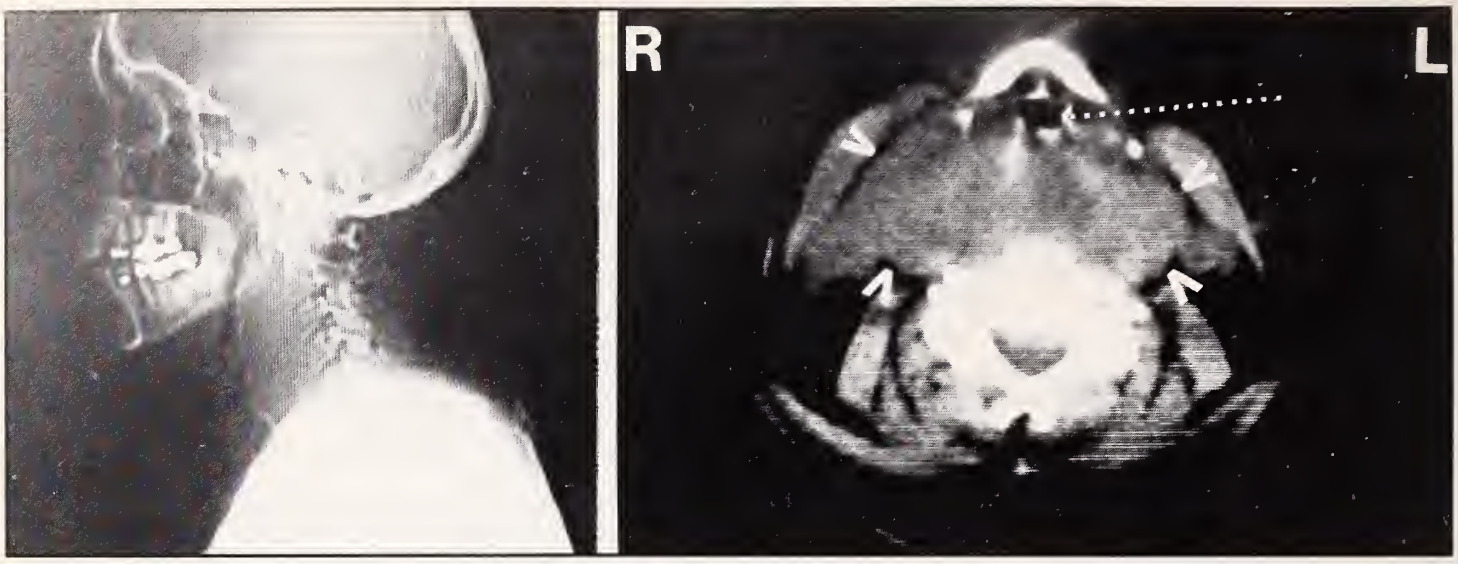


Figure 1. Radiographs of the neck. The left panel shows a lateral x-ray prior to CT. The right panel demonstrates an axial cut at the level of the hyoid bone. Note the large, homogeneous soft tissue mass that extends bilaterally (arrows) and appears to compromise the hypopharynx (dotted line).

the pretracheal tissue obtained during the tracheostomy and the biopsy of the retropharyngeal mass showed histologic changes of chronic thyroiditis (Hashimoto's type). No further surgery was performed.

The patient was discharged with a No. 4 metal tracheostomy tube and was prescribed L-thyroxine 0.1 mg per day. Within three weeks, she was no longer having dysphagia and the tracheostomy tube was removed. The stoma closed without complications. Over the next year the size of the thyroid gradually decreased. Antimicrosomal thyroid antibodies obtained after surgery were 1:9,600 (normal, < 1:100). Five years later, there is no evidence of any thyroid or retropharyngeal mass. She remains euthyroid on replacement L-thyroxine.

Comment

Retropharyngeal masses of thyroid origin are uncommon, since the thyroid develops anterior to the trachea by an outpouching of the pharyngeal floor (the foramen cecum at the base of the tongue) between the first and second branchial arches. The thyroid migrates to the lower anterior neck in front of the hyoid bone and laryngeal cartilages. Lingual thyroid glands and remnants along the path (thyroglossal duct cysts) attest to this embryology. However, thyroid diseases may present as retropharyngeal masses. Generally, these are continuous with a voluminous goiter wrapping around the trachea and esophagus that is seen in such conditions as congenital goiter[1] or multinodular goiter. Benign thyroid adenomas rarely present as retropharyngeal masses.[2,3] A case of subacute thyroiditis presenting with retropharyngeal fullness was recently reported.[4] Retropharyngeal spread of thyroid carcinoma to lymph nodes may also occur.[5]

Another case of Hashimoto's thyroiditis presenting as a retropharyngeal mass has been reported.[6] However, in that case, the thyroid gland appeared normal and was not biopsied because the retropharyngeal mass had no anatomical continuity with the thyroid. The mass was thought to represent a case of ectopic thyroid formation presumably from squamous metaplasia. In the present case, the thyroid and retropharyngeal mass were histologically proven to be Hashimoto's thyroiditis. The patient had lost thyroid reserve (elevated TSH) and had high titers of thyroid antibodies. Treatment with thyroid replacement was associated with gradual resolution of the retropharyngeal mass. Despite the rarity of thyroid diseases that manifest as retropharyngeal masses, the message is clear: diseases of the thyroid should be included in the differential diagnoses of retropharyngeal masses.

A further lesson to be learned from this case is that needle (fine needle or large cutting needle) aspiration biopsy of the mass probably would have aided with the preoperative diagnosis. Initial thyroid studies demonstrated an elevated TSH. Antithyroid antibodies were obtained postoperatively after the diagnosis was made. Such preoperative information in combination with the fine needle aspiration could have permitted a diagnosis of Hashimoto's thyroiditis and obviated the need for open biopsy. Having a cytopathologist experienced in reading thyroid aspirates is crucial for this route of management. While coexistent thyroid carcinoma or lymphoma could not be totally excluded, some clinicians, after reviewing the thyroid function studies and the presumed findings of chronic lymphocytic thyroiditis on needle biopsy, would have recommended a trial of exogenous thyroid hormone suppression before surgical intervention. However, when there is uncertainty as to diagnosis, open biopsy is indicated. ■

References

1 McCook TS, Feldman AH. Retropharyngeal masses in infants and young children. AM J Dis Child 1979;133:41-3.

2 Soboroff BJ. An unusual retropharyngeal mass. Tran Am Aced Ophthalmol Otolaryngol 1977;84:136-8.

3 Shamin M. Retropharyngeal goitre. J R Coll Surg Edinb 1978;23:367-8.

4 Yang RD, Weissfield J, Putman CE. Retropharyngeal soft-tissue swelling in an elderly man. JAMA 1986;255:3275-6.

5 McCormack KR, Sheline GE. Retropharyngeal spread of carcinoma of the thyroid. Cancer 1970;26:1366-9.

6 Kenyon GS, Robb PJ. Hashimoto's disease presenting as an unusual retropharyngeal mass. Clin Oncol 1983;9:159-64.

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Duodenal ulcer is a chronic, recurrent disease. While short-term treatment with sucralfate can result in complete healing of the ulcer, a successful course of treatment with sucralfate should not be expected to alter the post-healing frequency or severity of duodenal ulceration.

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Carcinogenesis, Mutagenesis, Impairment of Fertility: No evidence of drug-related tumorigenicity was found in chronic oral toxicity studies of 24 months' duration conducted in mice and rats at doses up to 1 gm/kg (12 times the human dose). A reproduction study in rats at doses up to 38 times the human dose did not reveal any indication of fertility impairment. Mutagenicity studies have not been conducted.

Pregnancy: Pregnancy Category B. Teratogenicity studies have been performed in mice, rats, and rabbits at doses up to 50 times the human dose and have revealed no evidence of harm to the fetus due to sucralfate. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when sucralfate is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Adverse reactions to sucralfate in clinical trials were minor and only rarely led to discontinuation of the drug. In studies involving over 2,500 patients, adverse effects were reported in 121 (4.7%). Constipation was the most frequent complaint (2.2%). Other adverse effects, reported in no more than one of every 350 patients, were diarrhea, nausea, gastric discomfort, indigestion, dry mouth, rash, pruritus, back pain, dizziness, sleepiness, and vertigo.

DOSAGE AND ADMINISTRATION

The recommended adult oral dosage for duodenal ulcer is 1 gm four times a day on an empty stomach.

Antacids may be prescribed as needed for relief of pain but should not be taken within one-half hour before or after sucralfate.

While healing with sucralfate may occur during the first week or two, treatment should be continued for 4 to 8 weeks unless healing has been demonstrated by x-ray or endoscopic examination.

HOW SUPPLIED

CARAFATE (sucralfate) 1-gm pink tablets are supplied in bottles of 100 and in Unit Dose Identification Paks of 100. The tablets are embossed with MARION/1712. Issued 3/84

References:

1. Grossman MI: *Scand J Gastroenterol* 58 (suppl 15):7-16, 1980.
2. Marks IN, in Hellemans J, Vantrappen G (eds): *Gastrointestinal Tract Disorders in the Elderly.* Edinburgh, Churchill Livingstone, 70-81, 1984.
3. Krentz K, Jablonowski H, in Hellemans J, Vantrappen G (eds): *Gastrointestinal Tract Disorders in the Elderly.* Edinburgh, Churchill Livingstone, 62-69, 1984.

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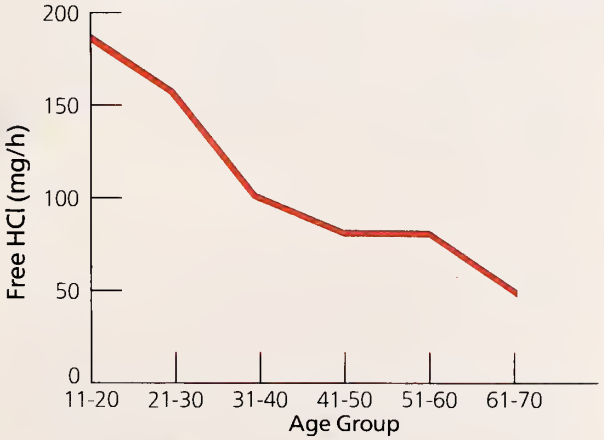
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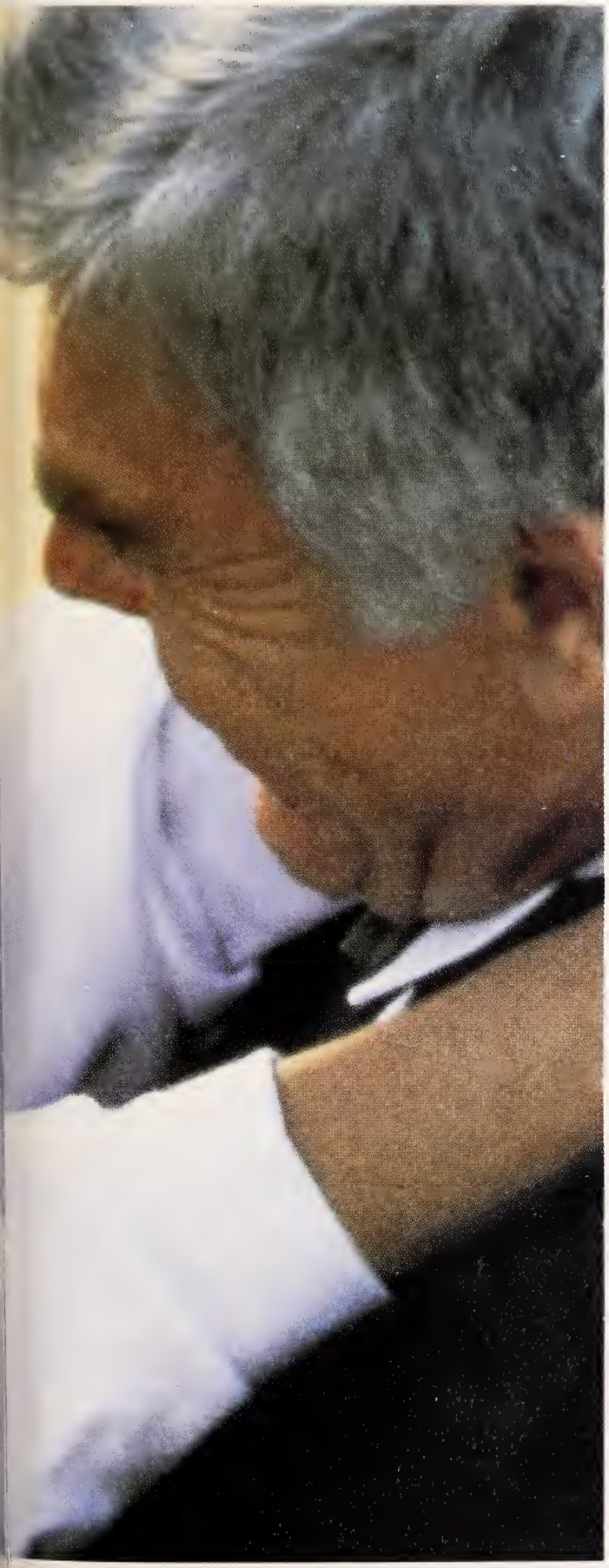
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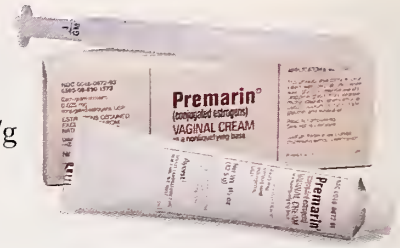
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PREMARIN® Brand of conjugated estrogens tablets, USP
PREMARIN® Brand of conjugated estrogens Vaginal Cream, in a nonliquefying base

1. ESTROGENS HAVE BEEN REPORTED TO INCREASE THE RISK OF ENDOMETRIAL CARCINOMA
Three independent, case-controlled studies have reported an increased risk of endometrial cancer in postmenopausal women exposed to exogenous estrogens for more than one year. This risk was independent of the other known risk factors for endometrial cancer. These studies are further supported by the finding that incidence rates of endometrial cancer have increased sharply since 1969 in eight different areas of the United States with population-based cancer reporting systems, an increase which may be related to the rapidly expanding use of estrogens during the last decade. The three case-controlled studies reported that the risk of endometrial cancer in estrogen users was about 4.5 to 13.9 times greater than in nonusers. The risk appears to depend on both duration of treatment and on estrogen dose. In view of these findings, when estrogens are used for the treatment of menopausal symptoms, the lowest dose that will control symptoms should be utilized and medication should be discontinued as soon as possible. When prolonged treatment is medically indicated, the patient should be reassessed on at least a semi-annual basis to determine the need for continued therapy. Although the evidence must be considered preliminary, one study suggests that cyclic administration of low doses of estrogen may carry less risk than continuous administration; it therefore appears prudent to utilize such a regimen. Close clinical surveillance of all women taking estrogens is important. In all cases of undiagnosed persistent or recurring abnormal vaginal bleeding, adequate diagnostic measures should be undertaken to rule out malignancy. There is no evidence at present that "natural" estrogens are more or less hazardous than "synthetic" estrogens at equi-estrogenic doses.
2. ESTROGENS SHOULD NOT BE USED DURING PREGNANCY.
The use of female sex hormones, both estrogens and progestogens, during early pregnancy may seriously damage the offspring. It has been shown that females exposed in utero to diethylstilbestrol, a nonsteroidal estrogen, have an increased risk of developing, in later life, a form of vaginal or cervical cancer that is ordinarily extremely rare. This risk has been estimated as not greater than 4 per 1,000 exposures. Furthermore, a high percentage of such exposed women (from 30% to 90%) have been found to have vaginal adenosis, epithelial changes of the vagina and cervix. Although these changes are histologically benign, it is not known whether they are precursors of malignancy. Although similar data are not available with the use of other estrogens, it cannot be presumed they would not induce similar changes. Several reports suggest an association between intrauterine exposure to female sex hormones and congenital anomalies, including congenital heart defects and limb-reduction defects. One case-controlled study estimated a 4.7-fold increased risk of limb-reduction defects in infants exposed in utero to sex hormones (oral contraceptives, hormone withdrawal tests for pregnancy, or attempted treatment for threatened abortion). Some of these exposures were very short and involved only a few days of treatment. The data suggest that the risk of limb-reduction defects in exposed fetuses is somewhat less than 1 per 1,000. In the past, female sex hormones have been used during pregnancy in an attempt to treat threatened or habitual abortion. There is considerable evidence that estrogens are ineffective for these indications, and there is no evidence from well-controlled studies that progestogens are effective for these uses. If PREMARIN is used during pregnancy, or if the patient becomes pregnant while taking this drug, she should be apprised of the potential risks to the fetus, and the advisability of pregnancy continuation.

DESCRIPTION: PREMARIN (conjugated estrogens, USP) contains a mixture of estrogens, obtained exclusively from natural sources, blended to represent the average composition of material derived from pregnant mares' urine. It contains estrone, equilin, and 17α-dihydroequilin, together with smaller amounts of 17α-estradiol, equilenin, and 17α-dihydroequilenin as salts of their sulfate esters. Tablets are available in 0.3 mg, 0.625 mg, 0.9 mg, 1.25 mg, and 2.5 mg strengths of conjugated estrogens. Cream is available as 0.625 mg conjugated estrogens per gram.

INDICATIONS AND USAGE: PREMARIN (conjugated estrogens tablets, USP): Moderate-to-severe *vasomotor* symptoms associated with the menopause. (There is no evidence that estrogens are effective for nervous symptoms or depression without associated vasomotor symptoms and they should not be used to treat such conditions.) Osteoporosis (abnormally low bone mass). Atrophic vaginitis. Kraurosis vulvae. Female castration.

PREMARIN (conjugated estrogens) Vaginal Cream is indicated in the treatment of atrophic vaginitis and kraurosis vulvae.

PREMARIN HAS NOT BEEN SHOWN TO BE EFFECTIVE FOR ANY PURPOSE DURING PREGNANCY AND ITS USE MAY CAUSE SEVERE HARM TO THE FETUS (SEE BOXED WARNING).

Concomitant Progestin Use: The lowest effective dose appropriate for the specific indication should be utilized. Studies of the addition of a progestin for 7 or more days of a cycle of estrogen administration have reported a lowered incidence of endometrial hyperplasia. Morphological and biochemical studies of the endometrium suggest that 10 to 13 days of progestin are needed to provide maximal maturation of the endometrium and to eliminate any hyperplastic changes. Whether this will provide protection from endometrial carcinoma has not been clearly established. There are possible additional risks which may be associated with the inclusion of progestin in estrogen replacement regimens. (See PRECAUTIONS.) The choice of progestin and dosage may be important; product labeling should be reviewed to minimize possible adverse effects.

CONTRAINDICATIONS: Estrogens should not be used in women (or men) with any of the following conditions: 1. Known or suspected cancer of the breast except in appropriately selected patients being treated for metastatic disease. 2. Known or suspected estrogen-dependent neoplasia. 3. Known or suspected pregnancy (see Boxed Warning). 4. Undiagnosed abnormal genital bleeding. 5. Active thrombophlebitis or thromboembolic disorders. 6. A past history of thrombophlebitis, thrombosis, or thromboembolic disorders associated with previous estrogen use (except when used in treatment of breast or prostatic malignancy).

WARNINGS: Estrogens have been reported to increase the risk of endometrial carcinoma (see Boxed Warning). However, a recent large, case-controlled study indicated no increase in risk of breast cancer in postmenopausal women. A recent study has reported a 2- to 3-fold increase in the risk of surgically confirmed gallbladder disease in women receiving postmenopausal estrogens.

Adverse effects of oral contraceptives may be expected at the larger doses of estrogen used to treat prostatic or breast cancer or postpartum breast engorgement; it has been shown that there is an increased risk of thrombosis in men receiving estrogens for prostatic cancer and women for postpartum breast engorgement. Users of oral contraceptives have an increased risk of diseases, such as thrombophlebitis, pulmonary embolism, stroke, and myocardial infarction. Cases of retinal thrombosis, mesenteric thrombosis, and optic neuritis have been reported in oral contraceptive users. An increased risk of postsurgery thromboembolic complications has also been reported in users of oral contraceptives. If feasible, estrogen should be discontinued at least 4 weeks before surgery of the type associated with an increased risk of thromboembolism, or during periods of prolonged immobilization. Estrogens should not be used in persons with active thrombophlebitis, thromboembolic disorders, or in persons with a history of such disorders in association with estrogen use. They should be used with caution in patients with cerebral vascular or coronary artery disease. Large doses (5 mg conjugated estrogens per day), comparable to those used to treat cancer of the prostate and breast, have been shown to increase the risk of nonfatal myocardial infarction, pulmonary embolism, and thrombophlebitis. When doses of this size are used, any of the thromboembolic and thrombotic adverse effects should be considered a clear risk.

Benign hepatic adenomas should be considered in estrogen users having abdominal pain and tenderness, abdominal mass, or hypovolemic shock. Hepatocellular carcinoma has been reported in women taking estrogen-containing oral contraceptives. Increased blood pressure may occur with use of estrogens in the menopause and blood pressure should be monitored with estrogen use. A worsening of glucose tolerance has been observed in patients on estrogen-containing oral contraceptives. For this reason, diabetic patients should be carefully observed. Estrogens may lead to severe hypercalcemia in patients with breast cancer and bone metastases.

PRECAUTIONS: Physical examination and a complete medical and family history should be taken prior to the initiation of any estrogen therapy with special reference to blood pressure, breasts, abdomen, and pelvic organs, and should include a Papanicolaou smear. As a general rule, estrogen should not be prescribed for longer than one year without another physical examination being performed. Conditions influenced by fluid retention, such as asthma, epilepsy, migraine, and cardiac or renal dysfunction, require careful observation. Certain patients may develop manifestations of excessive estrogenic stimulation, such as abnormal or excessive uterine bleeding, mastodynia, etc. Prolonged administration of unopposed estrogen therapy has been reported to increase the risk of endometrial hyperplasia in some patients. Oral contraceptives appear to be associated with an increased incidence of mental depression. Patients with a history of depression should be carefully observed. Pre-existing uterine leiomyomata may increase in size during estrogen use. The pathologist should be advised of estrogen therapy when relevant specimens are submitted. If jaundice develops in any patient receiving estrogen, the medication should be discontinued while the cause is investigated. Estrogens should be used with care in patients with impaired liver function, renal insufficiency, metabolic bone diseases associated with hypercalcemia, or in young patients in whom bone growth is not yet complete. If concomitant progestin therapy is used, potential risks may include adverse effects on carbohydrate and lipid metabolism.

The following changes may be expected with larger doses of estrogen:

a. Increased sulfobromophthalein retention.

b. Increased prothrombin and factors VII, VIII, IX, and X; decreased antithrombin 3; increased norepinephrine-induced platelet aggregability.

c. Increased thyroid binding globulin (TBG) leading to increased circulating total thyroid hormone, as measured by PBI, T_4 by column, or T_4 by radioimmunoassay. Free T_3 resin uptake is decreased, reflecting the elevated TBG; free T_4 concentration is unaltered.

d. Impaired glucose tolerance.

e. Decreased pregnanediol excretion.

f. Reduced response to metyrapone test.

g. Reduced serum folate concentration.

h. Increased serum triglyceride and phospholipid concentration.

As a general principle, the administration of any drug to nursing mothers should be done only when clearly necessary since many drugs are excreted in human milk.

Long-term, continuous administration of natural and synthetic estrogens in certain animal species increases the frequency of carcinomas of the breast, cervix, vagina, and liver. However, in a recent, large case-controlled study of postmenopausal women there was no increase in risk of breast cancer with use of conjugated estrogens.

ADVERSE REACTIONS: The following have been reported with estrogenic therapy, including oral contraceptives: breakthrough bleeding, spotting, change in menstrual flow, dysmenorrhea, premenstrual-like syndrome; amenorrhea during and after treatment; increase in size of uterine fibromyomata; vaginal candidiasis, change in cervical erosion and in degree of cervical secretion; cystitis-like syndrome; tenderness, enlargement, secretion (of breasts); nausea, vomiting, abdominal cramps, bloating, cholestatic jaundice; chloasma or melasma which may persist when drug is discontinued; erythema multiforme; erythema nodosum; hemorrhagic eruption, loss of scalp hair, hirsutism; steepening of corneal curvature; intolerance to contact lenses; headache, migraine, dizziness, mental depression, chorea; increase or decrease in weight; reduced carbohydrate tolerance; aggravation of porphyria; edema; changes in libido.

ACUTE OVERDOSAGE: May cause nausea, and withdrawal bleeding may occur in females.

DOSAGE AND ADMINISTRATION:

PREMARIN® Brand of conjugated estrogens tablets, USP

1. *Given cyclically for short-term use only:* For treatment of moderate-to-severe *vasomotor* symptoms, atrophic vaginitis, or kraurosis vulvae associated with the menopause (0.3 mg to 1.25 mg or more daily). The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible. Administration should be cyclic (eg, three weeks on and one week off). Attempts to discontinue or taper medication should be made at three- to six-month intervals.

2. *Given cyclically:* Osteoporosis. Female castration. Osteoporosis —0.625 mg daily. Administration should be cyclic (eg, three weeks on and one week off). Female castration—1.25 mg daily, cyclically. Adjust upward or downward according to response of the patient. For maintenance, adjust dosage to lowest level that will provide effective control.

Patients with an intact uterus should be monitored for signs of endometrial cancer and appropriate measures taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

PREMARIN® Brand of conjugated estrogens Vaginal Cream

Given cyclically for short-term use only: For treatment of atrophic vaginitis or kraurosis vulvae.

The lowest dose that will control symptoms should be chosen and medication should be discontinued as promptly as possible.

Administration should be cyclic (eg, three weeks on and one week off).

Attempts to discontinue or taper medication should be made at three- to six-month intervals.

Usual dosage range: 2 g to 4 g daily, intravaginally, depending on the severity of the condition.

Treated patients with an intact uterus should be monitored closely for signs of endometrial cancer and appropriate diagnostic measures should be taken to rule out malignancy in the event of persistent or recurring abnormal vaginal bleeding.

References:

1. Lindsay R, Hart DM, Clark DM: The minimum effective dose of estrogen for prevention of postmenopausal bone loss. *Obstet Gynecol* 1984;63:759-763. **2.** Studd JWW, Thom MH, Paterson MEL, et al: The prevention and treatment of endometrial pathology in postmenopausal women receiving exogenous estrogens, in Pasetto N, Paoletti R, Ambrus JL (eds): *The Menopause and Postmenopause*. Lancaster, England, MTP Press Ltd, 1980, chap 13

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Management of Malignant Tracheoesophageal Fistula Using a Celestin Tube

Mark R. Milunski, M.D.

Carcinoma of the esophagus is a particularly dreaded illness for many reasons. Its dismal five-year survival rate of approximately 6%, median survival of six months after diagnosis, and usual advanced state at the time of initial presentation, as well as the lack of adequate curative therapy, make this relatively rare cancer (approximately 1% of all cancers and 4% of all GI cancers) a devastating illness.[1,2] In most cases, therapy is aimed at palliation of the disease.

This report discusses a frequent complication of esophageal cancer — tracheoesophageal fistula (TEF) — and how to manage it by non-surgical means. The following case is typical of this complication.

My patient is a 52-year-old white man who presented to his private physician with a one- to two-month complaint of dysphagia, initially with solids only but now with liquids as well. Liquids, once swallowed, promptly caused him to cough. He denied fever, chills, hemoptysis, or purulent sputum production. He also reported a 10-pound weight loss over the month prior to presentation as well as new onset of hoarseness. There was a history of heavy, ongoing cigarette smoking and a past history of heavy alcohol consumption. The past medical history is notable for coronary artery disease and valvular heart disease for which the patient underwent coronary artery bypass grafting and aortic valve replacement in 1985.

A barium esophagram revealed an esophageal tumor 5-6 cm in length with free flow of barium into the tracheobronchial tree through a TEF located about 5 cm above the carina. The patient was referred to the Veterans Administration Medical Center in Durham for further evaluation and treatment.

Physical examination revealed a thin man with clear lung fields and mechanical sounds from his prosthetic valve on auscultation. He was asked to swallow a sip of water, which he promptly coughed back up.

From Cardiovascular Division, Washington University Medical Center, Box 8086, 660 South Euclid Avenue, St. Louis, MO 63110. At the time of writing this paper, Dr. Milunski was a Senior Resident in Medicine at Duke University Medical Center.

Esophagoscopy revealed an esophageal tumor occluding approximately 75% of the lumen. Biopsy of the tumor was diagnostic of squamous cell carcinoma. A modified Celestin silastic esophageal stent was placed, under endoscopic and fluoroscopic guidance, after the patient underwent esophageal dilation. Barium esophagram after the procedure confirmed the position of the stent and the occlusion of the TEF. The patient obtained immediate relief from his incessant coughing of aspirated oral secretions and was able to consume a soft diet on the day after the procedure.

The Problem . . . and a Solution

Tracheoesophageal fistula occurs in 5-10% of patients with cancer of the esophagus.[3] TEF can also involve the bronchi and other pulmonary structures. With the diagnosis of TEF, the median survival plummets to approximately six weeks.[3] Therefore, proper management is imperative; it can often improve the quality of life, and it can sometimes bring the survival time back up to six months simply by preventing the recurrent aspiration pneumonias which are often the cause of death in these patients.

Moreover, the unaided patient with a TEF is unable to take any nourishment by mouth, which leads to further debility. It is toward this end, improvement of the quality of life, that ways have been sought to overcome TEF and allow patients to consume at least a high-calorie liquid diet.

Various surgical procedures are available for bypassing a TEF. However, these are major procedures and carry a mortality of about 40%. Less invasive means of bypassing TEF have been developed, most of which involve placement of a silastic tube in the esophagus under endoscopic guidance. These tubes serve to both bypass the tumor stricture and occlude the TEF. Mortality from the procedure itself is much less than that from the more invasive bypass procedures.

The Celestin tube is inserted over a flexible figberoptic gastroscope using the so-called "push-through" technique with topical anesthesia. Stent placement is not without haz-

ard and should be done only by persons who have experience with the procedure. Esophageal perforation with massive bleeding and mediastinitis are infrequent but disastrous complications occurring in about 2% of patients.[4] Dislodgement of the stent occurs in about 25% of patients.[4] The prosthesis can migrate proximally, occluding the airway, or distally into the stomach, sometimes requiring surgical removal. Large pieces of food and tumor overgrowth can occlude the lumen of the stent as well. Stents should not be placed in the proximal esophagus since they can cause a foreign body sensation in the throat or occlude the glottis.

Placement of an esophageal stent often allows a patient to enjoy the taste of food once again without the hazards of aspiration, and can sometimes make an otherwise ineligible patient a candidate for palliative radiation therapy. ■

References

1 Rosenberg JC, Roth JA, Lichter AS, Kelsen DP. Cancer of the esophagus. In: DeVita VT, Hellman S, Rosenberg SA (eds). Cancer - principles and practice of oncology. 2nd ed. Philadelphia: J.B. Lippincott Co, 1985:621-57.

2 Silverberg E, Lubera J. Cancer statistics - 1987. CA 1987;37:2-19.

3 Little AG, Ferguson MK, DeMeester TR, et al. Esophageal carcinoma with respiratory tract fistula. Cancer 1984;53: 1322-8.

4 Ogilvie AL, Dronfield MW, Ferguson R, Atkinson M. Palliative intubation of oesophageal neoplasms at fibreoptic endoscopy. Gut 1982;23:1060-7.

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Intracranial Aneurysms

for the Primary Care Physician

Allan H. Friedman, M.D.

Intracranial aneurysms are generally considered to be rare lesions whose treatment lies firmly within the province of the neurosurgeon. In fact, intracranial aneurysms are a relatively common cause of stroke, and success in their treatment is firmly predicated upon early diagnosis by primary care physicians.

Subarachnoid hemorrhage is an increasingly important cause of stroke. Although the incidence of both ischemic infarction and hypertensive intracerebral hemorrhage has diminished over the past 30 years, the incidence of subarachnoid hemorrhage has remained constant at 12 per 100,000.[1] Thus approximately 28,000 Americans suffer a subarachnoid hemorrhage from a ruptured aneurysm each year.

The population in whom subarachnoid hemorrhage occurs is generally younger than that involved in ischemic infarction. While 75% of ischemic infarcts occur in patients who are age 65 or older, 75% of subarachnoid hemorrhages occur in patients who are less than 65. Thus, although ischemic stroke is usually associated with diffuse atherosclerotic vascular disease leaving survivors with a 45% chance of dying in the subsequent five years, and intracranial aneurysms are rarely associated with systemic disease, subarachnoid hemorrhage causing stroke can rob patients of more productive years than ischemic stroke.

The Role of the Primary Care Physician

In 25% of patients who suffer a subarachnoid hemorrhage, the presenting symptoms are overlooked or lead to an incorrect diagnosis.[2-4] The patients who are most often overlooked are those who present with a headache but without a substantial concomitant neurological deficit. Since therapeutic intervention is aimed at preventing a second hemorrhage and cannot appreciably influence the neurological deficits acquired from the initial hemorrhage, it is those patients who present in good condition who are most likely to benefit from early diagnosis and treatment.

Incorrect diagnosis is the most important remediable cause for serious morbidity and mortality following the rupture of an intracranial aneurysm. The number of patients who return to the hospital dead or with a serious neurological deficit following an incorrect diagnosis far outnumber the morbidity and mortality associated with aneurysm surgery. Thus, subarachnoid hemorrhage is clearly the concern of the primary care physician.

Clinical Presentation

Berry aneurysms are thin-walled outpouchings that occur at the bifurcation of intracranial vessels. Most commonly, they occur at the base of the brain on or close to the circle of Willis. Rarely, intracranial aneurysms are discovered incidentally. Unruptured inadvertently discovered aneurysms greater than six millimeters in diameter rupture at a rate of 3% per year and should be surgically obliterated in patients who have a life expectancy of at least five years.[5,6] Occasionally an aneurysm comes to clinical attention as an intracranial mass, but most often they present with subarachnoid hemorrhage.

Although the signs and symptoms of a severe subarachnoid hemorrhage are distinctive, the symptoms associated with a less severe hemorrhage may approximate those of other more common conditions. The patient who has suffered a subarachnoid hemorrhage complains of a severe

From Division of Neurosurgery, Department of Surgery, Duke University Medical Center, Durham 27710.

Table 1

Characteristics of headache following subarachnoid hemorrhage

- Severe — "worst headache of my life"
- Long lasting — often persists for days
- Abrupt onset — often brought on with exertion
- Novel distribution — "different from my usual headaches"

headache which is remarkable for its intensity. Frequently it is described as "the worst headache I have ever had in my life" (table 1). Occasionally the headache will crescendo over hours or even days but usually it is abrupt in onset. It is rarely described as throbbing.

Associated with the onset of the headache, there is a change in the patient's mental status. The severity of this mental alteration reflects the severity of the hemorrhage and ranges from momentary confusion to persistent coma. Many patients experience nausea. The conscious patient may complain of photophobia and nuchal rigidity. Rarely the patient will develop back and radicular leg pain as the blood pools in the lumbar subarachnoid space.

The emergency room physician and primary care physician are often frustrated because there is no sign or symptom that will invariably distinguish a headache secondary to a ruptured aneurysm from headaches of a more benign etiology. The clue to diagnosing subarachnoid hemorrhage is the unusual intensity and duration of the headache. Even a patient who chronically complains of headache will note that the headache associated with the subarachnoid hemorrhage will (1) occupy a novel distribution, (2) be of unusual intensity, (3) start with an unusually abrupt onset, and/or (4) last longer than the patient's usual headache.

One-third of patients who suffer a catastrophic hemorrhage are noted to have experienced a "warning leak" or small hemorrhage in the days prior .[7] This "warning leak" is characterized by headache. Again, the headache is distinctive for its intensity, sudden onset, persistence and unusual location. The distribution of the headache does not help in reaching the correct diagnosis, as the headache may be hemicranial, bilateral, orbital or even facial in its distribution. Severe photophobia is unusual although mild nuchal rigidity may be present. It is important to know that the brain CT scan may be negative following a small subarachnoid hemorrhage but that the patient's spinal fluid will almost invariably be xanthochromic and demonstrate red blood cells.

Physical Examination

In some cases physical examination will aid in the diagnosis. In a few cases, the aneurysm itself or the hemorrhage from the aneurysm will act as an intracranial mass causing dysfunction of neighboring structures. Although third nerve dysfunction (eyelid ptosis, pupillary enlargement and diplopia) is the most common example of neuronal dysfunction secondary to the mass effect of an aneurysm, rupture of the aneurysm into the brain parenchyma can result in hemiparesis, aphasia, etc. Subarachnoid hemorrhage can manifest as a change in mental status, nuchal rigidity or at least discomfort with neck flexion, and subhyaloid hemorrhage on examination of the ocular fundus. The patient's blood pressure is usually elevated.

Laboratory Tests

The diagnosis of a subarachnoid hemorrhage can usually be confirmed by a brain computed tomographic (CT) scan (figure 1). Although the resolution of the CT scanner will not delineate the average sized aneurysm, it will in the majority of cases demonstrate subarachnoid blood. Unfortunately, a negative brain CT scan will not completely rule out the possibility of a subarachnoid hemorrhage. In patients who have suffered a mild hemorrhage, the CT scanner may not have sufficient resolution to demonstrate the subarachnoid blood. In the days following the hemorrhage, the blood may mix with enough cerebrospinal fluid (CSF) to lose its characteristic high density and become isodense with the adjacent brain.

The diagnosis can almost always be made by an examination of the cerebrospinal fluid. Although there is a small risk of inducing further hemorrhage with this technique, the

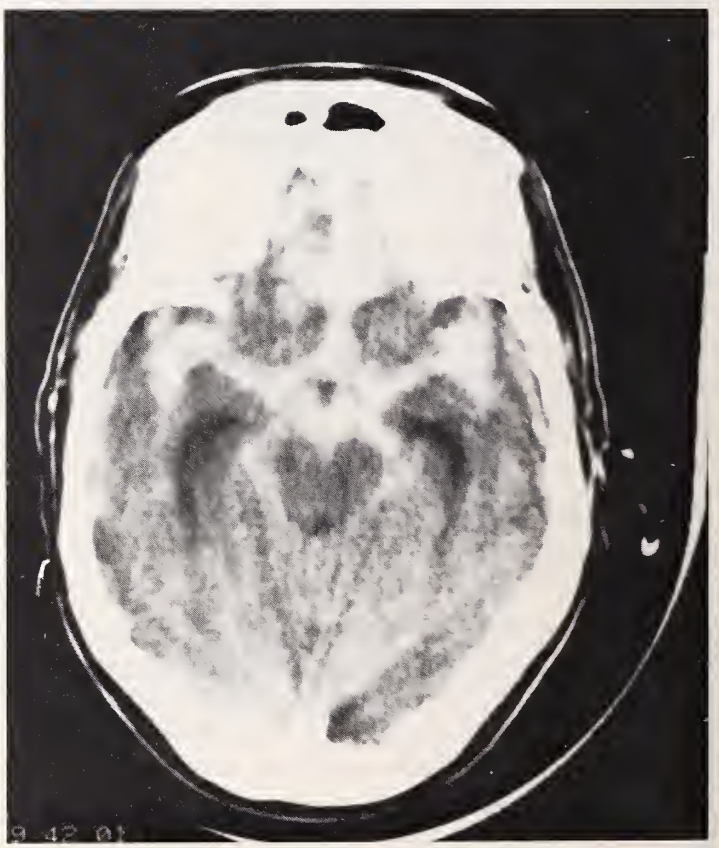


Figure 1. White blood in subarachnoid space outlines darker neural structures.



Figure 2. Large aneurysm at bifurcation of internal carotid artery (arrow head) into middle (single arrow) and anterior (double arrow) cerebral arteries. Note the thinness of the vessels. This patient has vasospasm.

potential advantages clearly outweigh this very small risk. In the patient who has no neurological manifestation of an intracranial mass or elevated high intracranial pressure, a spinal tap can be performed with a very low complication rate.

Spontaneous subarachnoid hemorrhage may be differentiated from a traumatic spinal tap by examining the red blood cell count in successive CSF samples. Following a traumatic spinal tap, the red cell count will diminish after some of the CSF has been allowed to drain. One can often determine that a spinal tap was traumatic by counting red blood cells in the first and fifth collection tubes. The differentiation between a traumatic spinal tap and spontaneous subarachnoid hemorrhage can also be made by examining the supernatant of the CSF following centrifugation. If the patient has suffered a spontaneous subarachnoid hemorrhage, the supernatant will be xanthochromic. Because the xanthochromia reflects the degration of red blood cells within the CSF, the degree of xanthochromia will depend on the extent of the hemorrhage and the length of time between the hemorrhage and the spinal tap. Once the diagnosis of subarachnoid hemorrhage is made, a cerebral angiogram must be performed to delineate the cause of the hemorrhage (figure 2).

Sequelae of a Ruptured Aneurysm

Once the aneurysm has hemorrhaged, the patient may suffer further loss of neurological function as a result of one of several sequelae. The four most common causes of neurological deficits are the initial hemorrhage, vasospasm, recurrent hemorrhage and hydrocephalus. Neurological deficits arising from the initial hemorrhage may be permanent or may slowly abate on their own as is the case in any form of stroke. Although the physician cannot resurrect dead neurons, he or she can be certain that the brain is not subjected to further metabolic insults, such as hypoxia or hypoglycemia, while it is healing. These insults will hinder the brain from achieving its maximal potential.

The most feared complication of a ruptured intracranial aneurysm is rebleeding. Twenty percent of patients will suffer a recurrent bleed within two weeks after the initial hemorrhage, and 50% of patients in whom the aneurysm is not obliterated surgically will suffer a second hemorrhage in the ensuing six months.[8,9] Because the patients have all been weakened by the initial hemorrhage, these second hemorrhages are associated with a mortality of approximately 50%. Pharmacological prevention of rebleeding has been disappointing. Although the antifibrinolytic agent ϵ-aminocaproic acid will halve the rebleeding rate in the two weeks following the initial hemorrhage, patients treated with this agent seem to suffer a higher incidence of stroke.[8] Thus as a net effect, the patient mortality over the two-week period is unchanged.Surgical obliteration of the aneurysm is the only sure method of preventing rebleeding.

The second major cause of morbidity and mortality is vasospasm. Vasospasm is defined as an idiopathic segmental narrowing of the large intracranial vessels. These contracted segments can be readily identified on an arteriogram. The clinical manifestations of vasospasm are the result of a cerebral ischemia and stroke. Approximately 50% of patients who have suffered a ruptured aneurysm will manifest vasospasm on an angiogram, and in 30% of patients vasospasm will result in a neurologic deficit. Occasionally the primary care physician will make the diagnosis of a ruptured aneurysm only after this neurological deficit from the vasospasm appears.

The exact etiology of vasospasm remains obscure. It has a delayed onset, most often beginning between the third and fourteenth day after the subarachnoid hemorrhage.[10,11] Vasospasm rarely begins within three days of the subarachnoid hemorrhage. It is this delayed onset that is so perplexing. Despite the frequency and predictable course of this condition, no completely effective therapy has been identified. At present the best therapy for vasospasm is intravascular volume expansion and arterial hypertension.[12]

The third most important complication is hydrocephalus. Because the subarachnoid blood obstructs CSF pathways, most patients who suffer a ruptured aneurysm will initially have some hydrocephalus. A small number of patients will develop progressive unresolving normal pressure hydrocephalus manifest as confusion, gait difficulty and urinary incontinence.

Therapy[13]

The point of this article is that the first step in successfully

treating a ruptured aneurysm is prompt diagnosis of a subarachnoid hemorrhage. After identifying the hemorrhage, precautions are taken to avoid a sudden elevation in the patient's blood pressure which might rupture the aneurysm. The patient is kept at bedrest in a dimly lit, quiet room. Visitation is limited. The patient is given stool softeners to avoid constipation and sometimes a mild sedative that will suppress anxiety but not affect the patient's mental status. Precautions are taken to keep the confused patient from falling out of bed. Although rebleeding from the aneurysm can be reduced by the use of ϵ-aminocaproic acid, this agent does not reduce the overall mortality associated with the condition.

The definitive treatment for an intracranial aneurysm is surgical. Most frequently, at the time of surgery, the base of the aneurysm is separated from the vascular lumen with a metal clip. Technical advances in microsurgery over the past 20 years have greatly reduced the hazards associated with aneurysm surgery.

The timing of the surgical repair remains controversial. In the 1950s surgeons performed surgery as soon as the diagnosis of a ruptured aneurysm was made. The anesthetic techniques and surgical equipment available at that time left them poorly prepared to tackle an acutely ruptured aneurysm. They also noted delayed deterioration of their patients which we now know was secondary to vasospasm. In the late 1960s and 1970s most surgeons delayed surgery for at least ten days or until the vasospasm had passed. This regimen combined with technical advances led to a drastic decline in the operative morbidity and mortality.

Unfortunately, in a review of the total population who had suffered from ruptured intracranial aneurysm, it was found that many patients died prior to becoming surgical candidates. This led to the exploration of two further modifications in therapy. First, there is some preliminary data suggesting that calcium channel blocking agents, if begun soon after the subarachnoid hemorrhage, can mitigate the effects of vasospasm. This finding led to a cooperative investigation of the use of calcium channel blockers in the therapy of ruptured intracranial aneurysm. Second, newer technology has made it safer to operate on intracranial aneurysms soon after rupture. Now that we know that vasospasm rarely occurs prior to the third day after the hemorrhage, many surgeons advocate operating on aneurysms within this three-day hiatus. ■

References

1 Phillips LH, Whisnant JP, O'Fallon WM, et al. The unchanging pattern of subarachnoid hemorrhage in a community. Neurology 1980;30:1034-40.

2 Kassell NF, Drake CG. Timing of aneurysm surgery. Neurosurgery 1982;10:515-9.

3 Adams HP, Jerginson MD, Kassell NF, et al. Pitfalls in the recognition of subarachnoid hemorrhage. JAMA 1980;244:794-6.

4 Kassell NF, Kongable GI, Torner JC, et al. Delay in referral of patients with ruptured aneurysms to neurosurgical attention. Stroke 1985;16:587-90.

5 Weibers DU, Whisnant JP, O'Fallon WM. The natural history of unruptured intracranial aneurysms. New Eng J Med 1981;304:696-8.

6 Winn HR, Berga SL, Richardson AE, et al. Long-term evaluation of patients with cerebral aneurysm. Ann Neurol 1981;10:106.

7 Leblanc R. The minor leak proceeding subarachnoid hemorrhage. J Neurosurg 1987;66:35-9.

8 Kassell NF, Torner JC, Adams HP. Antifibrinolytic therapy in the acute period following aneurysmal subarachnoid hemorrhage. Preliminary observations from the Cooperative Aneurysm Study. J Neurosurg 1984;61:225-30.

9 Locksley HB. Report on the cooperative study of intracranial aneurysms and subarachnoid hemorrhage V (part 2): Natural history of subarachnoid hemorrhage, intracranial aneurysms, and arteriovenous malformations. J Neurosurg 1966;25:321-68.

10 Weir B, Graco M, Hansen J, et al. Time course of vasospasm in man. J Neurosurg 1978;48:173-8.

11 Kwak R, Niizume H, Ohi H, et al. Angiographic study of cerebral vasospasm following rupture of intracranial aneurysm. Part 1. Time of the appearance. Surg Neurol 1979;11:257-62.

12 Kosnik EF, Hunt WE. Postoperative hypertension in the management of patients with intracranial arterial aneurysms. J Neurosurg 1976;45:148-54.

13 Drake CG. Management of cerebral aneurysms. Stroke 1981;12:273-83.

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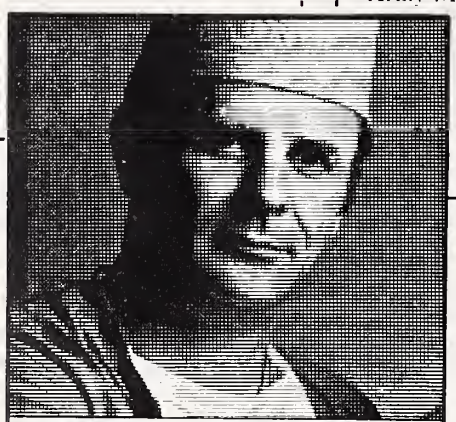
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J-6138 January 1986

News from DISTA about a new dosage form of cephalexin

ANNOUNCING NEW

Keflet® TABLETS

cephalexin

All the advantages of cephalexin in a convenient tablet form

- Backed by over 15 years of clinical experience
- Smaller tablet is specially shaped and coated for easier swallowing
- May enhance patient compliance, particularly among the elderly
- Tablet dosage form may be appreciated by patients of all ages

NEW Keflet Tablets are available as:

250-mg Tablets



500-mg Tablets

Keflet is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-sensitive patients.

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Brief Summary. Consult the package literature for prescribing information. Indications and Usage: Keflet® Tablets (cephalexin, Dista) are indicated for the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Respiratory tract infections caused by *Streptococcus pneumoniae* and group A β-hemolytic streptococci (Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. Keflet is generally effective in the eradication of streptococci from the nasopharynx; however, substantial data establishing the efficacy of Keflet in the subsequent prevention of rheumatic fever are not available at present.)

Otitis media due to *S pneumoniae, Haemophilus influenzae,* staphylococci, streptococci, and *Neisseria catarrhalis*

Skin and skin structure infections caused by staphylococci and/or streptococci

Bone infections caused by staphylococci and/or *Proteus mirabilis*

Genitourinary tract infections, including acute prostatitis, caused by *Escherichia coli, P mirabilis,* and *Klebsiella* sp.

Note— Culture and susceptibility tests should be initiated prior to and during therapy. Renal function studies should be performed when indicated.

Contraindication: Keflet is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: BEFORE CEPHALEXIN THERAPY IS INSTITUTED, CAREFUL INQUIRY SHOULD BE MADE CONCERNING PREVIOUS HYPERSENSITIVITY REACTIONS TO CEPHALOSPORINS AND PENICILLIN. CEPHALOSPORIN C DERIVATIVES SHOULD BE GIVEN CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS.

SERIOUS ACUTE HYPERSENSITIVITY REACTIONS MAY REQUIRE EPINEPHRINE AND OTHER EMERGENCY MEASURES.

There is some clinical and laboratory evidence of partial cross-allergenicity of the penicillins and the cephalosporins. Patients have been reported to have had severe reactions (including anaphylaxis) to both drugs.

Any patient who has demonstrated some form of allergy, particularly to drugs, should receive antibiotics cautiously. No exception should be made with regard to Keflet.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C difficile*. Other causes of colitis should be ruled out.

Usage in Pregnancy— Safety of this product for use during pregnancy has not been established.

Precautions: *General*— Patients should be followed carefully so that any side effects or unusual manifestations of drug idiosyncrasy may be detected. If an allergic reaction to Keflet occurs, the drug should be discontinued and the patient treated with the usual agents (eg, epinephrine or other pressor amines, antihistamines, or corticosteroids).

Prolonged use of Keflet may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Keflet should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

Indicated surgical procedures should be performed in conjunction with antibiotic therapy.

As a result of administration of Keflet, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B— The daily oral administration of cephalexin to rats in doses of 250 or 500 mg/kg prior to and during pregnancy, or to rats and mice during the period of organogenesis only, had no adverse effect on fertility, fetal viability, fetal weight, or litter size. Note that the safety of cephalexin during pregnancy in humans has not been established.

Cephalexin showed no enhanced toxicity in weanling and newborn rats as compared with adult animals. Nevertheless, because the studies in humans cannot rule out the possibility of harm, Keflet should be used during pregnancy only if clearly needed.

Nursing Mothers— The excretion of cephalexin in the milk increased up to 4 hours after a 500-mg dose; the drug reached a maximum level of 4 μg/mL, then decreased gradually, and had disappeared 8 hours after administration. Caution should be exercised when Keflet is administered to a nursing woman.

Adverse Reactions: *Gastrointestinal*— Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely. The most frequent side effect has been diarrhea. It was very rarely severe enough to warrant cessation of therapy. Dyspepsia and abdominal pain have also occurred. As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.

Hypersensitivity— Allergic reactions in the form of rash, urticaria, angioedema, and, rarely, erythema multiforme, Stevens-Johnson Syndrome, or toxic epidermal necrolysis have been observed. These reactions usually subsided upon discontinuation of the drug. Anaphylaxis has also been reported.

Other reactions have included genital and anal pruritus, genital moniliasis, vaginitis and vaginal discharge, dizziness, fatigue, and headache. Reversible interstitial nephritis has been reported rarely. Eosinophilia, neutropenia, thrombocytopenia, and slight elevations in SGOT and SGPT have been reported.

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ZOVIRAX®
(acyclovir)
CAPSULES

Prevent genital herpes recurrences month after month with daily therapy.

(In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.)

Please see last page of this advertisement for brief summary of prescribing information.

ZOVIRAX®
(acyclovir)
CAPSULES

Help free your patients from recurrences.

Daily therapy

Coping with genital herpes is rarely easy. For some, the worst part is the pain and discomfort of frequent attacks—month after month, year after year. For others, the emotional burden presents a more difficult problem, leading to social isolation, anxiety, and diminished self-esteem.

Prevent or reduce recurrences

Although your patients have to live with herpes, they shouldn't have to suffer. Daily therapy with ZOVIRAX CAPSULES can help free them from the cycle of recurrent genital herpes. For many, one capsule three times a day can suppress recurrences completely while on therapy.

Generally well tolerated

Daily therapy with ZOVIRAX CAPSULES is generally well tolerated. The most frequent adverse reactions reported during clinical trials were headache, diarrhea, nausea/vomiting, vertigo, and arthralgia.

The physical and emotional difficulties posed by genital herpes are unique for each patient. The frequency and severity of recurrent episodes, as well as the emotional impact of the disease, should be considered when selecting daily therapy with ZOVIRAX CAPSULES.

Please see brief summary of prescribing information on next page.



Prevent recurrences month after month*

ZOVIRAX® (acyclovir) CAPSULES

Brief Summary

INDICATIONS AND USAGE: Zovirax Capsules are indicated for the treatment of initial episodes and the management of recurrent episodes of genital herpes in certain patients.

The severity of disease is variable depending upon the immune status of the patient, the frequency and duration of episodes, and the degree of cutaneous or systemic involvement. These factors should determine patient management, which may include symptomatic support and counseling only, or the institution of specific therapy. The physical, emotional and psycho-social difficulties posed by herpes infections as well as the degree of debilitation, particularly in immunocompromised patients, are unique for each patient, and the physician should determine therapeutic alternatives based on his or her understanding of the individual patient's needs. Thus Zovirax Capsules are not appropriate in treating all genital herpes infections. The following guidelines may be useful in weighing the benefit/risk considerations in specific disease categories:

First Episodes (primary and nonprimary infections — commonly known as initial genital herpes):

Double-blind, placebo-controlled studies have demonstrated that orally administered Zovirax significantly reduced the duration of acute infection (detection of virus in lesions by tissue culture) and lesion healing. The duration of pain and new lesion formation was decreased in some patient groups. The promptness of initiation of therapy and/or the patient's prior exposure to Herpes simplex virus may influence the degree of benefit from therapy. Patients with mild disease may derive less benefit than those with more severe episodes. In patients with extremely severe episodes, in which prostration, central nervous system involvement, urinary retention or inability to take oral medication require hospitalization and more aggressive management, therapy may be best initiated with intravenous Zovirax.

Recurrent Episodes:

Double-blind, placebo-controlled studies in patients with frequent recurrences (6 or more episodes per year) have shown that Zovirax Capsules given for 4 to 6 months prevented or reduced the frequency and/or severity of recurrences in greater than 95% of patients. Clinical recurrences were prevented in 40 to 75% of patients. Some patients experienced increased severity of the first episode following cessation of therapy; the severity of subsequent episodes and the effect on the natural history of the disease are still under study.

The safety and efficacy of orally administered acyclovir in the suppression of frequent episodes of genital herpes have been established only for up to 6 months. Chronic suppressive therapy is most appropriate when, in the judgement of the physician, the benefits of such a regimen outweigh known or potential adverse effects. In general, Zovirax Capsules should not be used for the suppression of recurrent disease in mildly affected patients. Unanswered questions concerning the human relevance of *in vitro* mutagenicity studies and reproductive toxicity studies in animals given very high doses of acyclovir for short periods (see Carcinogenesis, Mutagenesis, Impairment of Fertility) should be borne in mind when designing long-term management for individual patients. Discussion of these issues with patients will provide them the opportunity to weigh the potential for toxicity against the severity of their disease. Thus, this regimen should be considered only for appropriate patients and only for six months until the results of ongoing studies allow a more precise evaluation of the benefit/risk assessment of prolonged therapy.

Limited studies have shown that there are certain patients for whom intermittent short-term treatment of recurrent episodes is effective. This approach may be more appropriate than a suppressive regimen in patients with infrequent recurrences.

Immunocompromised patients with recurrent herpes infections can be treated with either intermittent or chronic suppressive therapy. Clinically significant resistance, although rare, is more likely to be seen with prolonged or repeated therapy in severely immunocompromised patients with active lesions.

CONTRAINDICATIONS: Zovirax Capsules are contraindicated for patients who develop hypersensitivity or intolerance to the components of the formulation.

WARNINGS: Zovirax Capsules are intended for oral ingestion only.

PRECAUTIONS: General: Zovirax has caused decreased spermatogenesis at high doses in some animals and mutagenesis in some acute studies at high concentrations of drug (see PRECAUTIONS — Carcinogenesis, Mutagenesis, Impairment of Fertility). The recommended dosage and length of treatment should not be exceeded (see DOSAGE AND ADMINISTRATION).

Exposure of Herpes simplex isolates to acyclovir *in vitro* can lead to the emergence of less sensitive viruses. The possibility of the appearance of less sensitive viruses in man must be borne in mind when treating patients. The relationship between the *in vitro* sensitivity of Herpes simplex virus to acyclovir and clinical response to therapy has yet to be established.

Because of the possibility that less sensitive virus may be selected in patients who are receiving acyclovir, all patients should be advised to take particular care to avoid potential transmission of virus if active lesions are present while they are on therapy. In severely immunocompromised patients, the physician should be aware that prolonged or repeated courses of acyclovir may result in selection of resistant viruses which may not fully respond to continued acyclovir therapy.

Drug Interactions: Co-administration of probenecid with intravenous acyclovir has been shown to increase the mean half-life and the area under the concentration-time curve. Urinary excretion and renal clearance were correspondingly reduced.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Acyclovir was tested in lifetime bioassays in rats and mice at single daily doses of 50, 150 and 450 mg/kg given by gavage. There was no statistically significant difference in the incidence of tumors between treated and control animals, nor did acyclovir shorten the latency of tumors. In 2 *in vitro* cell transformation assays, used to provide preliminary assessment of potential oncogenicity in advance of these more definitive life-time bioassays in rodents, conflicting results were obtained. Acyclovir was positive at the highest dose used in one system and the resulting morphologically transformed cells formed tumors when inoculated into immunosuppressed, syngeneic, weanling mice. Acyclovir was negative in another transformation system considered less sensitive.

In acute studies, there was an increase, not statistically significant, in the incidence of chromosomal damage at maximum tolerated parenteral doses of 100 mg/kg acyclovir in rats but not Chinese hamsters; higher doses of 500 and 1000 mg/kg were clastogenic in Chinese hamsters. In addition, no activity was found after 5 days dosing in a dominant lethal study in mice. In 6 of 11 microbial and mammalian cell assays, no evidence of mutagenicity was observed. At 3 loci in a Chinese hamster ovary cell line, the results were inconclusive. In 2 mammalian cell assays (human lymphocytes and L5178Y mouse lymphoma cells *in vitro*), positive responses for mutagenicity and chromosomal damage occurred, but only at concentrations at least 400 times the acyclovir plasma levels achieved in man.

Acyclovir has not been shown to impair fertility or reproduction in mice (450 mg/kg/day, p.o.) or in rats (25 mg/kg/day, s.c.). At 50 mg/kg/day s.c. in the rat, there was a statistically significant increase in post-implantation loss, but no concomitant decrease in litter size. In female rabbits treated subcutaneously with acyclovir subsequent to mating, there was a statistically significant decrease in implantation efficiency but no concomitant decrease in litter size at a dose of 50 mg/kg/day. No effect upon implantation efficiency was observed when the same dose was administered intravenously. In a rat peri- and postnatal study at 50 mg/kg/day s.c., there was a statistically significant decrease in the group mean numbers of corpora lutea, total implantation sites and live fetuses in the F_1 generation. Although not statistically significant, there was also a dose related decrease in group mean numbers of live fetuses and implantation sites at 12.5 mg/kg/day and 25 mg/kg/day, s.c. The intravenous administration of 100 mg/kg/day, a dose known to cause obstructive nephropathy in rabbits, caused a significant increase in fetal resorptions and a corresponding decrease in litter size. However, at a maximum tolerated intravenous dose of 50 mg/kg/day in rabbits, there were no drug-related reproductive effects.

Intraperitoneal doses of 320 or 80 mg/kg/day acyclovir given to rats for 1 and 6 months, respectively, caused testicular atrophy. Testicular atrophy was persistent through the 4-week postdose recovery phase after 320 mg/kg/day; some evidence of recovery of sperm production was evident 30 days postdose. Intravenous doses of 100 and 200 mg/kg/day acyclovir given to dogs for 31 days caused aspermatogenesis. Testicles were normal in dogs given 50 mg/kg/day, i.v. for one month.

Pregnancy: ***Teratogenic Effects:*** Pregnancy Category C. Acyclovir was not teratogenic in the mouse (450 mg/kg/day, p.o.), rat (50 mg/kg/day, s.c.) or rabbit (50 mg/kg/day, s.c. and i.v.). There are no adequate and well-controlled studies in pregnant women. Acyclovir should not be used during pregnancy unless the potential benefit justifies the potential risk to the fetus. Although acyclovir was not teratogenic in animal studies, the drug's potential for causing chromosome breaks at high concentration should be taken into consideration in making this determination.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when Zovirax is administered to a nursing woman. In nursing mothers, consideration should be given to not using acyclovir treatment or discontinuing breastfeeding.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS — Short-Term Administration: The most frequent adverse reactions reported during clinical trials were nausea and/or vomiting in 8 of 298 patient treatments (2.7%) and headache in 2 of 298 (0.6%). Less frequent adverse reactions, each of which occurred in 1 of 298 patient treatments (0.3%), included diarrhea, dizziness, anorexia, fatigue, edema, skin rash, leg pain, inguinal adenopathy, medication taste and sore throat.

Long-Term Administration: The most frequent adverse reactions reported in studies of daily therapy for 3 to 6 months were headache in 33 of 251 patients (13.1%), diarrhea in 22 of 251 (8.8%), nausea and/or vomiting in 20 of 251 (8.0%), vertigo in 9 of 251 (3.6%), and arthralgia in 9 of 251 (3.6%). Less frequent adverse reactions, each of which occurred in less than 3% of the 251 patients (see number of patients in parentheses), included skin rash (7), insomnia (4), fatigue (7), fever (4), palpitations (1), sore throat (2), superficial thrombophlebitis (1), muscle cramps (2), pars planitis (1), menstrual abnormality (4), acne (3), lymphadenopathy (2), irritability (1), accelerated hair loss (1), and depression (1).

DOSAGE AND ADMINISTRATION: Treatment of initial genital herpes: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 10 days (total 50 capsules).

Chronic suppressive therapy for recurrent disease: One 200 mg capsule 3 times daily for up to 6 months. Some patients may require more drug, up to one 200 mg capsule 5 times daily for up to 6 months.

Intermittent Therapy: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 5 days (total 25 capsules). Therapy should be initiated at the earliest sign or symptom (prodrome) of recurrence.

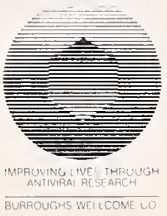
Patients With Acute or Chronic Renal Impairment: One 200 mg capsule every 12 hours is recommended for patients with creatinine clearance $\leq$10 ml/min/1.73/m^2.

HOW SUPPLIED: Zovirax Capsules (blue, opaque) containing 200 mg acyclovir and printed with "Wellcome ZOVIRAX 200" - Bottles of 100 (NDC-0081-0991-55) and unit dose pack of 100 (NDC-0081-0991-56).

Store at 15°-30°C (59°-86°F) and protect from light.

*In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.

Burroughs Wellcome Co., Research Triangle Park, North Carolina 27709



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Fever with a Dissecting Aorta Aneurysm

A Case Report and Review of the Literature

Bruce Gould, M.D., and Ralph Corey, M.D.

"There is no disease more conducive to clinical humility than aneurysm of the aorta." (William Osler[1])

Despite the great strides in our diagnostic capabilities, Dr. Osler's words still hold true today. The protean manifestations of dissecting aortic aneurysms make the diagnosis an elusive one. One of the less common symptoms, fever, can lead to an extensive and unproductive workup.

We report a case of fever of unknown origin secondary to a chronically dissecting aortic aneurysm, and review six previous cases. A recognition of this association may be helpful in the workup of patients with either of these problems.

A 79-year-old white woman with a one-year history of mild hypertension presented with the sudden onset of intense back pain radiating to the left precordium. She described the pain as "a firecracker going off in my chest." Examination showed a blood pressure of 180/90 mmHg in her right arm. A myocardial infarction was ruled out by serial enzymes and electrocardiograms. However, the patient was found to have daily temperature spikes of more than 102°F. Leukocyte counts ran between 8000/mm^3 and 11,000/mm^3 with normal differentials. A sedimentation rate was 79 mm/hr. Blood, urine, and sputum cultures were negative for bacteria and tuberculosis. A ventilation-perfusion scan and echocardiogram were unrevealing.

During the patient's hospitalization she developed epigastric pain. Liver enzymes, amylase, upper and lower barium studies, biliary studies, and an abdominal CT scan were normal. Computer tomography of the chest showed an aortic dissection distal to the left subclavian artery which her physicians felt was quiescent. She was also found to have an unexplained drop in her hematocrit from 40% to 32%. After 13 days in the hospital the patient was discharged with the cause of her fever, anemia, and chest pain unexplained.

Six weeks later the patient was rehospitalized with recurrent tearing chest pain and fever. Physical examination showed her to be chronically ill with a temperature to 101.6°F. No pulmonary or cardiovascular abnormalities were found on physical examination. The hematocrit remained at 32% and the sedimentation was 75 mm/hr. Leukocyte counts ranged from 10,000/mm to 13,000/mm. A chest x-ray showed a small left pleural effusion and a thoracic aneurysm; the effusion was not tapped. Cultures of blood and urine were negative as was a gallium scan. During the seven days before transfer, the patient had daily temperature spikes as high as 102.5°F.

On arrival at Duke University Medical Center the patient appeared tired but in no distress. Her blood pressure was 170/80 mmHg in both arms; her temperature was 99.5°F. Her chest was tender to palpation over the left lateral wall. Cardiorespiratory and abdominal examination were entirely normal. Femoral and distal pulses were weak but equal. Laboratory studies showed a hematocrit of 34%; leukocyte count of 13,000/mm (73% neutrophils, 1% bands, 21% lymphocytes, and 5% monocytes). The chest x-ray showed dilation of the thoracic aorta. Blood and urine cultures were negative. Rib detail x-rays and a bone scan were normal. A chest CT scan showed a type 3 dissecting aneurysm which had enlarged since the previous study six weeks earlier (figure 1). Surgical repair was offered to the patient, but she favored conservative therapy with a beta-blocker and careful follow-up. Over the four months since discharge, the patient has remained afebrile and pain-free.

Discussion

In retrospect, our patient's tearing back pain is a classic description of a dissecting aneurysm, and the location of the pain in the back suggests a type 3 aneurysm. She appeared to have had two acute episodes of dissection. In light

Department of Medicine, Duke University Medical Center, Durham 27710.

Table 1

	Age/Sex	Clinical Features	Maximum Temp (F)	Initial Diagnosis	Fever Duration	Aneurysm Type	Time to Diagnosis
Case 1[3]	68M	nausea, vomiting hypotension	102.0°	rule out abdominal disease	5 weeks	type 2	5 weeks
Case 2[3]	27M	severe back pain Marfan's syndrome	104.0°	dissecting aneurysm, fever of unknown origin	11 weeks	type 3	3 days
Case 3[3]	33M	substernal chest pain, dyspnea, aortic insufficiency	103.0°	bacterial endocarditis	3 days	type 2	3 days
Case 4[3]	37M	substernal chest pain, diaphoresis, aortic insufficiency	102.0°	bacterial endocarditis	2 weeks	type 2	2 weeks
Case 5[4]	50M	intense substernal chest pain, malaise, holosystolic murmur	102.5°	fever of unknown origin	5 weeks	type 2	2 weeks
Case 6[5]	51M	sharp anterior chest pain, dyspnea, aortic insufficiency	102.0°	bacterial endocarditis	4 weeks	type 2	4 weeks
Case 7	79F	intense back and left chest pain, epigastric pain	102.5°	fever of unknown origin	9 weeks	type 3	8 weeks

of the negative gastrointestinal workup, the patient's abdominal complaints were very likely due to referred pain as the aneurysm dissected toward the abdomen. The drop in the patient's hematocrit can be attributed to the accumulation of blood in the aortic wall. Because of the little appreciated association between prolonged fever and dissecting aortic aneurysms the initial investigators were misled.

Hirst[2] reviewed 505 cases of dissecting aneurysms reported from 1933 to 1954. He found the presence of a fever greater than 100.1°F in a third of the cases. Additionally, 8% had temperatures greater than 102°F. Despite this review the association of fever and dissecting aortic aneurysms has received little attention in the major textbooks. In the recent literature six other case reports have documented the occurrence of fever with dissecting aortic aneurysms.[3-5] These cases have usually occurred in a clinical setting suggestive of an aneurysm but in which the chest x-rays were not remarkable. Bacterial endocarditis was initially diagnosed in three cases because of the presence of fever and an aortic regurgitation murmur. All three of these patients, however, had severe chest pain which is uncommon in endocarditis. In the other three cases an extensive and unrevealing fever workup was undertaken. In three of six cases, the diagnosis was not made until the chest x-ray findings showed mediastinal widening. A fourth case was diagnosed by the development of physical findings and a fifth was discovered at valve surgery. The maximum temperature in these cases was 104°F with a mean temperature of 102.5°F.

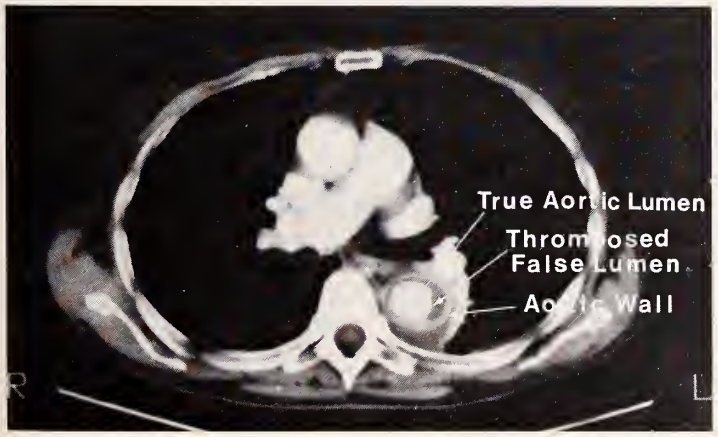


Figure 1. Computerized tomography with contrast of dissecting descending thoracic aortic aneurysm.

In addition to high fevers, dissecting aneurysms can be associated with prolonged fevers which can last up to 11 weeks. The longest-lasting fevers occurred in the patient with the largest aneurysm. The aneurysm in Case Two extended from the left subclavian to the iliac arteries. Whether the prolonged fevers are a manifestation of an extensive dissection or of smaller, recurrent dissections is difficult to say. We felt the latter was true in our case.

One postulated mechanism of temperature elevation in these patients is the presence of an intramural hematoma. The association of hematomas and fever has been recorded in the literature. In a series of 105 patients with fever of unknown origin, Larson[6] found resolution of three patients' fevers with removal of cryptogenic hematomas. Clarke[7] and Staheli[8] found high fevers in pediatric patients who suffered fractures complicated only by hematomas. Clarke took the observation one step further and injected blood into the quadriceps of the donor rabbits. The rabbits with a hematoma had a significantly higher temperature than the rabbits injected with lactated Ringer's solution. The fevers were thought to be generated by the release of the pyrogen, interleuken I, from the macrophage,[9-11] a cell important in

hematoma reabsorption.[12] The pyrogen then acts on the preoptic region of the hypothalamus to initiate a fever.[13]

Mackowiak[4] postulated that the proximal location of the dissection in his case predisposed to the development of fever. His contention was that high concentrations of pyrogen were carried directly to the central nervous system leading to the development of high fevers. While this may be true, our case and Case Two illustrate that a dissection proximal to the great vessels is not a prerequisite for the development of high fevers. Further, in the cases associated with type two dissections, hemorrhagic pericarditis may add to the fever.

As these cases illustrate, when a patient presents with fever and chest pain a dissecting thoracic aneurysm must be considered. The key to diagnosis is a high index of suspicion and careful examination of the patient and the chest x-ray. Further evaluation with chest CT scan or an aortogram should be carried out early so that appropriate therapy can be instituted. Awareness of the association of fever and dissecting aortic aneurysms may help in the diagnosis of an often elusive disease. ■

Acknowledgments

The authors wish to thank Dr. David Mason and Dr. Ronald Digbee for their help in the clinical care of this patient.

References

1 Kampmeir RH. Sacular aneurysm of the thoracic aorta: a clinical study of 633 cases. An Intern Med 1938;12:624-51.

2 Hirst AE, Johns VH Jr. Dissecting aneurysm of the aorta: a review of 505 cases. Medicine 1958;37:217-79.

3 Murray HW, Mann JJ, et al. Fever with dissecting aneurysm of the aorta. Am J Med 1976;61:140-4.

4 Mackowiak PA, Lipscomb KM, et al. Dissecting aortic aneurysm manifested as fever of unknown origin. JAMA 1976;236:1725-7.

5 Ruderman A, Mackowiak P. Fever as a manifestation of dissecting aneurysm of aorta. Am J Cardiol 1979;44:581-2.

6 Larson EB, Featherstone HJ, et al. Fever of undetermined origin: diagnosis and follow-up of 105 cases, 1970-1980. Medicine 1982;61:269-92.

7 Clarke SA, Ehrlich MG, et al. Hematoma-induced febrile response in the pediatric patient. J Ped Orthoped 1983;3:333-40.

8 Staheli LT, et al. Fever following trauma in childhood. JAMA 1967;199:503-4.

9 Dinarello CA, Renfer L, Wolff SM. The production of antibody against human leukocyte pyrogen. J Clin Invest 1977;60:465-72.

10 Atkins E. Fever: the old and the new. J Infect Dis 1984;149:339-48.

11 Dinarello CA. Interleukin-1. Rev Infect Dis 1984;6:51-75.

12 Lalonde JM, Ghadially FN, Massey KL. Ultrastructure of intramuscular haematomas and electron-probe x-ray analysis of extracellular and intracellular iron deposits. J Pathol 1978;125:17-23.

13 Atkins E, Bodel PT. Role of leukocytes in fever. In: Pyrogens and fever. Wolstenholme GEW, Birch J (eds). Edinburgh, Churchill Livingstone Co, 1971, pp. 81-98.

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Oy Oy Oy — My Back

An Unusual Cause of Back Pain Secondary to Adult Gaucher's Disease

Peter Mark Levitin, M.D., F.A.C.P.

Although most patients with low back pain have regional disease, occasionally a patient has a systemic disease that presents as back pain.[1,2]

A 58-year-old woman had a two-year history of intermittent lower thoracic and lumbar back pain associated with progressive kyphosis and loss of height (5 inches). The back pain was initially precipitated by lifting firewood. One year after her initial symptoms, a physician told her she had traumatic vertebral compression fractures.

Examination revealed a small female who could not sit or stand straight up because of the severe thoracic kyphosis. There was pain on palpation of the right and left paralumbar muscles. The peripheral joints were normal except for Heberden and Bouchard nodes and limited active abduction of the left shoulder due to an old traumatic humoral fracture. The abdomen could not be adequately examined because of the severe kyphosis.

Laboratory test results included a hemoglobin of 11.9 gm/dl, white blood cell count of 3800/mm^3 with a normal differential and an erythrocyte sedimentation rate (Westegren) of 25 mm/hour. Results of chemistry screens, serum and urine immunoelectrophoresis were normal.

Radiologic examination of the lumbosacral spine revealed compression fractures of T11, L1, L2, and L4. Figure 1 demonstrates L1, L2, and L4 compression fractures.

A bone marrow aspirate and biopsy were performed and showed Gaucher cells (figure 2; next page). (This procedure was initially done to look for evidence of multiple myeloma or other malignancy.) A white blood cell assay for the enzyme B-glucocerebrosidase was low (18% of control). Subsequent laboratory studies included a platelet count of 92,000/mm^3 and an acid phosphatase of 1.4 IU/L (normal 0.0-0.8 IU/L). A left hip radiograph was normal and a liver/spleen scan demonstrated splenomegaly.



Figure 1. Radiograph of the lateral lumbar spine demonstrating vertebral compression fractures of L1, L2, and L4.

Discussion

Adult Gaucher's disease (type I) is characterized by the abnormal accumulation of glucocerebroside in the reticuloendothelial cells of the spleen, bone marrow, and other

From A.J. Tannenbaum Medical Associates, 1904 North Church Street, Greensboro 27405.

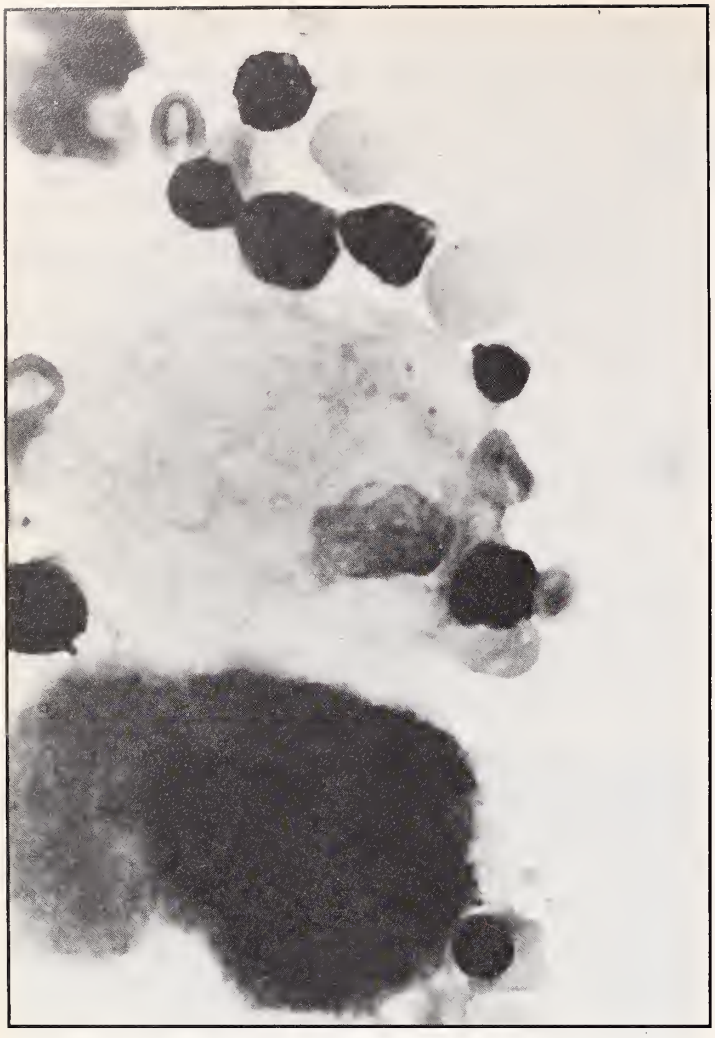


Figure 2. Bone marrow aspirate demonstrating a Gaucher cell. The cyptoplasm appears crinkled and has a tissue paper appearance characteristic of Gaucher cells.

organs due to a deficiency of the lysosomal enzyme B-glucocerebrosidase. The adult form of Gaucher's disease, although panethnic, is more common in Ashkenazic Jews, occurs equally in men and women, and can become clinically evident at any age.[3,4]

The skeletal manifestations of adult Gaucher's disease can include a variety of clinical presentations (table 1).[3-10] Single or multiple vertebral compression fractures, especially in the thoracolumbar spine, can cause low back pain and may result in severe kyphosis.[3-8] Compression fractures in Gaucher's disease result from the accumulation of Gaucher cells in the medullary space of the bone marrow that may lead to increased intramedullary pressure, disintegration and atrophy of the bone trabeculae, and to thinning and erosion of the cortex.[9]

There is no specific treatment for Gaucher's disease. In some cases, bone pain has responded to radiation therapy or corticosteroids. Enzyme replacement with B-glucocerebrosidase is being studied.[4,6-8]

Table 1

Skeletal Involvement in Gaucher's Disease

1. Bone pain syndromes
   a. nonspecific bone pain
   b. pseudo-osteomyelitis
   c. pyogenic osteomyelitis
2. Aseptic necrosis of subchondral bone (hip > shoulder, knee) joint pain and/or joint destruction with restricted movement.
3. Erlenmeyer flask deformity of the distal femur
4. Vertebral compression fractures
5. Pathologic fractures of long bones
6. Interphalangeal joint involvement
7. Migratory polyarthritis
8. Hemorrhagic bursitis

Gaucher's disease is rarely encountered as a cause of low back pain in clinical practice. This case serves as a reminder that compression fractures can be due to many causes other than idiopathic osteoporosis. ■

References

1 Hadler NM. Regional back pain. N Engl J Med 1986;315:1090-2.

2 Hadler NM. Medical management of the regional musculoskeletal disease: backache, neck pain, disorders of the upper and lower extremities. Orlando, FL: Grune and Stratton, 1984.

3 Lachiewicz PF. Gaucher's disease. Orthop Clin North Am 1984;15:765-74.

4 Gordon EJ. Gaucher's disease in adults. Southern Med J 1976;69:664-9.

5 Beighton P, Goldblatt J, Sacks S. Bone involvement in Gaucher's disease. Prog Clin Biol Res 1982;95:107-29.

6 Amstutz HC, Carey EJ. Skeletal manifestations and treatment of Gaucher's disease. JBJS 1966;48A:670-701.

7 Sack GH, Jr. Clinical diversity in Gaucher's disease. Johns Hopkins Med J 1980;146:166-70.

8 Buckingham RB, Rodnan GP. Arthritis associated with hematologic disorders, storage diseases, disorders of lipid metabolism, and dysproteinemias. In: Arthritis and allied conditions, 10th Ed. DJ McCarty, ed. Philadelphia: Lea & Febiger, 1985, pp. 1141-3.

9 Gelfand G, Bienenstock H. Hemorrhagic bursitis and bone crises in chronic adult Gaucher's disease: a case report. Arthritis Rheum 1982;25:1369-73.

10 Weizman Z, Tennenbaum A, Yatziv S. Interphalangeal joint involvement in Gaucher's disease, type 1, resembling juvenile rheumatoid arthritis. Arthritis Rheum 1982;25:706-7.

How To Get Help from the Creatinine Clearance *and* the Plasma Creatinine Concentration

William B. Blythe, M.D.

It is my conviction, derived from conversations with some of our house officers and information sent to me by several referring physicians, that there is confusion about the use and relative merit of the plasma creatinine concentration and the creatinine clearance as markers of renal function.

There is, I believe, a widespread notion that the creatinine clearance is *always* more precise a measure of the status of renal function than is the plasma creatinine concentration. This is not true! Let me point out why.

The only measure of glomerular filtration rate in humans which has remained unsullied through the years is the clearance of inulin. This determination is too time-consuming to be of use to the clinician. This being the case, a search was initiated to find a substance the clearance of which approximates that of inulin, the production of which occurs in the body so that it does not have to be administered, and the measurement of which is relatively simple.

Almost half a century ago creatinine was found to fit the bill reasonably well in that it is easily measured and its rate of production by the body is constant under most circumstances; however, it was found early on that the creatinine clearance is not always identical to the inulin clearance.

As a result of extensive use of the endogenous creatinine clearance through the years, these questions have arisen: Which chemical determination of creatinine results in an endogenous creatinine clearance which is closest to the inulin clearance? What are the circumstances in which the endogenous creatinine clearance might differ so much from the inulin clearance that it could not be used as a measure of glomerular filtration rate? Can the plasma creatinine concentration be used as an accurate estimate of glomerular filtration rate?

The most widely-held view is that methods of measuring the sum of true creatinine *and* the so-called non-creatinine chromogens in plasma result in values for the endogenous creatinine clearance which most closely approximate the inulin clearance. This is so because the non-creatinine chromogens are not excreted into the urine and their concentration in plasma offsets the small amount of creatinine secreted by the tubules. When true creatinine alone is measured in plasma, the value for creatinine clearance is falsely high. Many laboratories nowadays measure true creatinine and the clinician may be unaware of this fact.

Regardless of the method used, the creatinine/inulin clearance ratio increases as the glomerular filtration rate is reduced by disease until the glomerular filtration rate is at extremely low levels when the ratio returns toward one.

Lastly, what about the use of the plasma creatinine concentration per se as an accurate estimate of glomerular filtration rate?

In general, the evidence suggests that the relationship between plasma creatinine concentration and glomerular filtration rate is an inverse one; thus decreases in glomerular filtration are reflected in corresponding increases in plasma creatinine concentration. But remember, this is true only when creatinine production is constant. Furthermore, since creatinine production is a function of lean body mass, and since lean body mass varies from individual to individual, the plasma creatinine concentration cannot be used by itself as a measure of glomerular filtration rate.

Nevertheless, once the creatinine clearance is known, the plasma creatinine concentration *alone* can be used as a measure of glomerular filtration rate because of its inverse relationship to the creatinine clearance.

So what does this mean to you, the careful clinician? It means that you should be aware of these pitfalls, and specifically:

1 You should know the method of determining plasma creatinine that is used by your laboratory.

2 In determining a 24-hour creatinine clearance, you should be certain that the 24-hour collection of urine is accurate. You can do this by checking the amount of creatinine in the 24-hour collection. It should approximate 20 mgm of creatinine per kilogram of body weight per 24 hours. If it

From the Division of Nephrology, the University of North Carolina School of Medicine, Chapel Hill 27514.

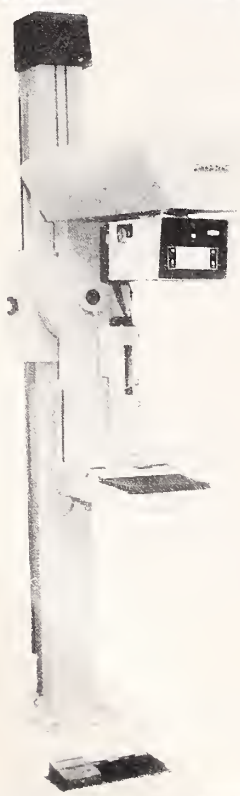
is significantly less than this, you can be certain that the collection is inadequate and the creatinine clearance will be spuriously low. If it is significantly higher, the patient has collected urine for more than 24 hours and the creatinine clearance will be spuriously high.

3 Once you have determined an accurate creatinine clearance, you need not repeat it in following a patient. A plasma creatinine concentration is accurate.

One final word of caution: several groups of investigators have found that the relationship between plasma creatinine concentration and the endogenous creatinine clearance may not always be a truly inverse one and thus changes in the plasma creatinine concentration may not be reflective of changes in the glomerular filtration rate. Thus, as is always the case, the clinician must not rely on any number for a final answer. ■

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NORTH CAROLINA MEDICAL JOURNAL

For Patients

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Breast Cancer Awareness Program

Asking Men To Help Fight Breast Cancer

American Academy of Family Physicians

To increase the chances of early detection of breast cancer, a disease that kills an estimated 40,000 women per year, Susan Ford Vance, spokesperson for the 1987 National Breast Cancer Awareness Week program, is appealing to men for help. Ms. Vance's campaign seeks to increase awareness among women and their partners about breast cancer and early detection techniques.*

One of the key elements of the program, sponsored by the American Academy of Family Physicians (AAFP), the National Cancer Care Foundation and the ICI Pharmaceuticals Group, is "A Partner's Guide to Breast Cancer Early Detection."

Male Guidelines

The "Partner's Guide" is being distributed to family physicians across the country to help them counsel men. It emphasizes that mammography is the single most effective tool in the early detection of breast cancer and suggests ways for men to communicate this and other information about the disease to their loved ones.

Robert H. Taylor, M.D., president of the American Academy of Family Physicians, feels that while we have always talked to women, not men, about breast cancer, "if breast cancer strikes your wife, your mother, or your sister it has a significant impact. Men need to be informed about the importance of early detection so they can help support the women in their lives."

Family physicians nationwide are encouraged to discuss this information with their women patients' spouses and family members as well as with their male patients. A free booklet for men and women, titled "Breast Cancer: Your Best Protection . . . Early Detection," is available from The National Cancer Care foundation (attention: Diane Blum), 1180 Avenue of the Americas, New York, NY 10036 and also through members of the Academy of Family Physicians. The booklet was funded by the ICI Pharmaceuticals Group.

The "Partner's Guide" is divided into information and action guidelines (see the next page for the short version). The information guidelines — "What You Should Know" — cite breast self-examination and annual physician exam as important early detection techniques.

*See also the For Patients section of our October issue (NCMJ 1987;48:517-22) for a discussion of early detection techniques and the American Cancer Society's guide to breast self examination.

From AAFP, 1740 West 92nd Street, Kansas City, MO 64114.

What You Should Know:

- To date, breast cancer can't be prevented — early detection through appropriate mammography gives your wife or partner the best chance of survival.
- Breast self-examination — the easiest step in fighting breast cancer is detection awareness for women over 20, and appropriate mammography for women over 35.
- If she finds a lump, don't panic — not all lumps are cancerous.

What You Can Do:

- Talk to her about the importance of mammography — a vital, painless, early detection tool.
- Encourage her to see her family physician.
- Support your wife or partner — but don't pressure her.

The action guidelines — "What You Can Do" — suggest ways to encourage one's wife or partner to incorporate early detection methods into her daily routine. The guidelines recommend talking to her about the importance of mammography and encouraging her to schedule an appointment with her family physician. The guidelines also advise men to do something as simple as bringing newspaper and magazine articles about breast cancer to their partner's attention.

Disease of the breast is a very serious matter to women, and should be approached in a straightforward manner. As Dr. Taylor says, "It will tell her a lot about how much you care to bring up the matter in a gentle, delicate, and concerned manner. And you just might help to save her life."

Survey Results

In a recent telephone survey on male attitudes about breast cancer, conducted for the ICI Pharmaceuticals Group, less than one-third of the 500 men interviewed had discussed mammography with their wives or partners, and less than half had discussed breast cancer or breast self-examination.

The survey also found that close to six in 10 men thought their partners regularly examined their breasts. This figure is much higher than a recent Gallup study finding that only one in three women regularly performed self-examination.

The ICI survey also reported that half the men questioned said their partners did not have mammograms based on the schedule recommended by the American Cancer Society.

"It's very common for women to be the health caretakers of the entire family," says Diane Blum, director of Social Service at the National Cancer Care foundation, and founder of the National Alliance of Breast Cancer Organizations (NABCO). "By asking men to become part of the health prevention loop, we are attempting to break the molds of some very traditional roles."

Cancer Research

The ICI Pharmaceuticals Group is comprised of Stuart Pharmaceuticals and the newly created ICI Pharma. ICI Pharma will now direct cancer research and development efforts for the Group. Stuart Pharmaceuticals will share its cancer knowledge and advances spanning the past 20 years with ICI Pharma.

Stuart Pharmaceuticals founded National Breast Cancer Awareness Week in 1985 to generate awareness of breast cancer early detection in women. Stuart's extensive breast cancer research includes the development of tamoxifen, a widely used breast cancer hormonal treatment.

Recent Breast Cancer Findings

In the last nine months, significant findings have been reported in the field of breast cancer. Statistics from the National Cancer Institute (NCI), for example, show black women may be at higher risk than non-black women for developing breast cancer between the ages of 20 and 40. Also, an American Cancer Society survey of black women found they have a lower incidence of recognizing the early warning signs of breast cancer.

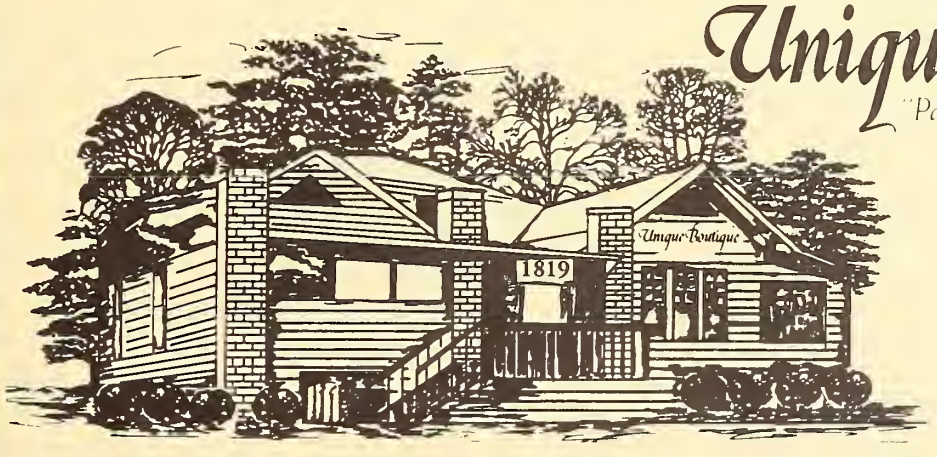
In May, the *New England Journal of Medicine* published an article reporting that moderate drinking — about three drinks a week — can increase a woman's risk of breast cancer by 50%. Within the last few years, 15 studies have linked alcohol to breast cancer.

In March, the American Cancer Society updated its

mammography guidelines. It now recommends women 35-40 have a baseline mammogram, women 40-49 have mammograms every one to two years, and women over the age of 50 have a breast X-ray yearly.

In April, a U.S. Preventive Services Task Force study published in the *Journal of the American Medical Association* conceded that not enough research has been done to determine the effectiveness of breast self-examination. Women should continue to examine their breasts for signs of cancer, but this should not be the only detection method they employ.

The American Cancer Society estimates 130,000 new cases of breast cancer will be diagnosed this year. About one in 10 women will develop the disease at some time during her life. Breast cancer will claim over 41,000 lives this year. ■



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Health Care, Social Justice and the Elderly

LARRY R. CHURCHILL, Ph.D.

American health care is full of striking contrasts. We spent $250,000 to keep Barney Clark alive, tethered to an air pump, for 112 days of "encumbered twilight" in Salt Lake City. Meanwhile, in cities like Detroit, Boston and Raleigh the infant mortality rate, frequently related to basic nutritional and perinatal care, has begun to rise. So far the federal government has contributed over $240 million to develop the artificial heart, while at the same time cutting the programs which provide for the needs of indigent mothers and infants.

With the advent of cyclosporins, many large medical centers are now preparing their facilities to offer heart, liver and other organ transplant services, at a cost of hundreds of thousands of dollars per procedure. Simultaneously, large public hospitals in some Southern states are closing their emergency rooms on weekends in order to stem the flow of poor patients who use emergency rooms for primary care.

Persons in chronic vegetative states sometimes have their kidneys and bowels washed, their lungs cleared and their infections treated at public expense. While some seem to live needlessly, others seem to die needlessly. Eugene Barnes, a 32-year-old unemployed stab-wound victim, died in a San Francisco hospital in February, 1985. He was turned away from four other hospitals because he lacked health insurance. Do these scenarios present moral problems? It all depends on your view of justice, on what criteria you believe should be used to distribute health care resources.

These are not isolated instances. The larger picture looks roughly like this:

1 In 1986: We spend (estimated)$450 billion on health care, or over $1,800 for every citizen. This constitutes almost 11% of the Gross National Budget. Health care costs have been rising at twice the rate of inflation over the last decade.

2 All Americans do not share the benefits of our health system equally. Numerous studies reveal roughly the same picture: the poor, the nonwhite, the elderly, those in urban ghettos or remote rural areas are in much worse health and receive far fewer benefits. At least 25 million Americans have no health insurance of any kind for all of any given year, while an additional 12 million are uninsured for a part of the year.

3 Pressures on our health care system will grow more acute for several reasons. The population is aging. By the year 2040 almost a quarter of us will be 65 or older. Currently 80% of our health resources are spent on chronic illness, and with the rising age of the population, this percentage is bound to increase. A third pressure on our diminishing resources is the high cost of technology.

In sum, we are faced with an increasingly aged, chronically ill population that is infatuated with high technology medicine. Distributional problems are, therefore, very likely to get worse.

When resources are limited, when health care must be rationed, questions about *fair* distribution arise. Such questions are not primarily issues of individual morality, but larger social concerns — concerns of *justice*.

There are inequities in all health care systems, and I take it for granted that there is no perfect system. The question is: Are the inequities in the current American system unfair, or merely unfortunate?

To put it more starkly, no society has figured out how to avoid rationing its health care resources. The question is not *will* we have to ration, but what rationing criteria will provide for the most just system of health care?

John Wax of the VA Hospital of Palo Alto has listed 18 ways to ration health care:

1 Ability to pay
2 Age
3 Residence
4 Entitlement
5 Need
6 Anticipated clinical outcome — effectiveness
7 Political contact
8 Acceptability as a research subject
9 Lottery
10 First come, first served

From Department of Social and Administrative Medicine, University of North Carolina School of Medicine, Chapel Hill 27514.
This speech was delivered at the 133rd Annual Session of the North Carolina Medical Society, May 2, 1987. A more detailed form of some of these arguments can be found in the author's Rationing Health Care in America, University of Notre Dame Press, 1987.

11 Social worth
12 Moral or religious worth
13 Dread factor of the illness
14 Public or media pressure
15 Power of relevant specialty groups to command resources
16 Attractiveness to screeners
17 Risk of death or serious illness or injury if treatment is not forthcoming
18 Risk of legal or financial liability if treatment is withheld

Although we could find examples for each of Wax's 18 ways, the basic mode in the U.S. is *rationing by price.* Access to health care is mostly contingent on having a way to pay for it, usually by a third party. Some secondary criteria we use are *age* (Medicare), *race* (Indian Health Service), *merit* (veterans), geography, good looks, etc., but the overriding token of entrance is ability to pay. The genius of this system is that it hides responsibility. Price rationing fits snugly with a market economy and a consumer mentality; it is an extension of a basic economic philosophy we believe in deeply in this country. Since no one actually excludes the poor (it is their lack of money and insurance that excludes them, not our actions), no one is responsible and no one is to blame. Therefore efforts to assist the poor are seen as acts of charity, examples of a virtue seen as an option. The genius of laissez-faire health care is that it orders the priorities of health care by not ordering them, that is, by letting market forces decide who gets what.

And, of course, we don't follow the market consistently, because we are unwilling to let the poor die in the streets — *if* we can identify them with names and faces. For identified desperately ill, we have church barbecues, fund raisers and Air Force jets.

The Federal Task Force on Organ Transplantation (1986) recommended we end this *ad hoc* approach by covering all organ transplants with public funds, which sounds good, but would put us in the ironic situation of absolute equity in exotic, very expensive and partially effective forms of care while ignoring equity in some of the most effective and least expensive forms of care.

Four different ways have been proposed as distributional schemes: merit, social worth, ability to pay, and need. I will examine each briefly. There are assets and liabilities associated with each.

Merit

People should get health care if they deserve it. This sounds attractive because we find that a large number of deaths and disabilities occur each year due to causes not beyond our control: alcohol and automobile accidents; smoking and lung cancer; multiple sexual partners and venereal disease; and so on. In many instances people have an effect on, and a responsibility for, their own medical needs.

Yet, there are problems with merit as the basis of allocation of medical care. *First,* because what is underscored here may be less a basis for distribution than a cry for prevention. *Second,* because the causal nexus which relates behavior to ill health is not so neat or clear as it first appears. Many now believe the causes of disease are multiple, not singular. *Third,* because many physicians find it impossible to say, for example, "I can't care for your lung cancer because you smoke."

The emphasis on meritorious behavior also may tend to exaggerate the extent to which health behaviors — for example, immoderate drinking — are truly voluntary. Merit as a criterion may tend to "blame the victim."

Some moral philosophers who reject merit as *the basis* of allocation argue for a merit clause in the system of payments. Robert Veatch, for example, asserts that although persons who smoke, drink, and hang-glide have an equal right to health care, they should be taxed for these voluntary risks to their health. Because they are more likely to use health care resources, such persons should be taxed at a rate calculated to add to the health budget an amount equal to the marginal health cost of their behavior.

The idea is attractive, but not persuasive. In order to show a just system of merit, Veatch needs to show that not only do certain behaviors add to the expense of health care, but the additional expense is greater than the costs of the alternatives.

A heavy smoker may die prematurely at age 50, incurring treatment costs for pulmonary disease of $50,000, but this may well be less than the alternative scenario of death at age 85, preceded by coronary artery by-pass surgery, multiple hospitalizations and five years of care in an obtunded or severely debilitated condition in a custodial care institution. It is not clear, simply from the economic viewpoint, that *early death* is a greater drain on resources. In fact, I suspect that just the reverse argument is more cogent, that premature, sudden death is the great economizer and that a just system — considered strictly on what costs we are likely to incur — should tax those whose health habits are likely to propel them into advanced old age, where, as we know, they will use inordinate amounts of resources during their last year of life. If we follow this logic we should give a health-tax rebate to those who join sky-diving or hang-gliding clubs!

Additionally, the notion of a merit-based tax system for health care would be contingent on an effective way to determine who was practicing what. An even-handed treatment for all such practices raises the spectre of a *health police,* which violates cherished notions of privacy and liberty. It is unclear that a merit system could be made workable, and even if it were, whether we would want it.

Social Worth

Here priority is given to the social interest, the common good, the welfare of the community, or the greatest good for the greatest number. People should get health care if they are worthwhile or valuable citizens.

On the face of it this sounds reasonable — the most valuable members of society should receive top priority. The president should be the top priority in the emergency room. When Nancy Reagan wants the Mayo surgeons at Bethesda for the President, she should have them, even if this means that others in Rochester will have their surgery postponed or done by others.

But what seems easy enough in unusual cases is exceedingly problematic as more ordinary people are involved. We know from the scenarios surrounding access to renal dialysis in the 1960s how problematic social worth judgments can be. Universal entitlement to treatment for all with ESRD enacted in 1972 did not solve this problem, but put it on a different plane. The cost of the ESRD program is about $3 billion annually, and will be an estimated $6 billion by the early 1990s.

The difficulties of rationing on the basis of social worth are great, but universal coverage seems to add even more burdens to the system.

Ability to Pay

Here the idea is that people should get health care if they can pay for it. Some who argue for ability to pay argue for it in terms of physicians' right to have control over their practices. This is essentially the argument of Robert Sade, who in a well-known article, "The Right to Health Care: A Refutation," disavows patients' rights to care in favor of physicians' rights of liberty and autonomy over service. The physician owns her services like the baker owns his bread, and she can sell it for whatever price the market will bear, discount it, or give it away. This appeals to powerful American traditions of liberty and the values of the market, what Dan Beauchamp calls "market justice." Now I believe there are problems with this libertarian view of health marketing and with the Lockean model of professional ownership, but I do not want to argue it here. Because to argue this way, either for or against, presupposes just the sort of individualized ethic which is unproductive in discerning matters of justice. I want to approach the issue by asking, "How is it that we understand differences in health status, and differences in the need for services, to begin with?"

Market justice says disparities in wealth can translate into disparities of health care, and this is unfortunate, but not unfair. It is not unfair, the argument goes, because we all have different natural predispositions to disease, what is sometimes called "the natural lottery." And no one is responsible for the natural lottery. It isn't a social injustice that some are born wealthy, some poor, some sickly, some healthy. The natural lottery is morally neutral. So if some can buy cosmetic rhinoplasty or mammary augmentation while others cannot afford basic prenatal care, it is regrettable, but not unjust.

Those who disagree argue that the structure of social life frequently exacerbates, and sometimes even causes, differences in the natural lottery. Fifty years ago Henry Sigerist claimed "the chief cause of disease is poverty." Research on the relationship of race, class, poverty and health consistently shows the same pattern. Economic and social conditions play a role not only in health care but in overall health. Some are in ill health because they are poor; some are poor because they are in ill health. Most researchers assume that the effects of poor health and low socioeconomic status are circular. Whatever the precise relationship, it is sufficiently clear that class differences contribute to the etiology of disease, so that disease is not just a natural component of the human genetic lottery, or a chance and uncontrollable occurrence.

If all diseases can be attributed to original patterns in the genetic pool rather than to our historical existence in social patterns, then obligations to alter or be responsive to these differential patterns of illness might be optional and gratuitous responses of charity. If class has nothing to do with disease and health, we can say that inequities in access to health care are unfortunate, but not unfair. But this is not the case.

Not all our health problems relate to social conditions, but, more than it is comfortable to think about, many of them do. Sometimes the unfairness results precisely from our participation in the social nexus which contributed to those differences, both medical and financial. The natural lottery turns out to be not so natural as it appeared.

Need

The guiding concept here is that people should get health care if they *need* it. Ordinarily this is discussed in terms of a "right" to health care and this has taken two forms: (1) that there is a right to *equal access* to whatever health care is available; or (2) that there is a right to a *decent minimum* of health care. Both forms seek to meet needs regardless of ability to pay, merit, or social worth.

The arguments go like this:

1 First, we must recognize that we all fall ill and are susceptible to disability and death.

2 Secondly, while some illnesses are self-induced, diseases generally are not the sorts of things which are distributed by merit. We all are very likely to incur needs for health care for which we are not responsible and which are, in many instances, unforeseeable.

3 Third, the need for health care is sometimes exacerbated, sometimes caused, by the social and cultural forces in society.

4 Finally, health care — largely as treatment by physicians, frequently as public health or preventive measures — is effective.

Ill health is, in sum, the sort of thing which is universally experienced, but unevenly distributed, over which we have little control or predictive power, and for which there is frequently effective help. A just society is one in which the right to health care is based on the elemental fact of human need.

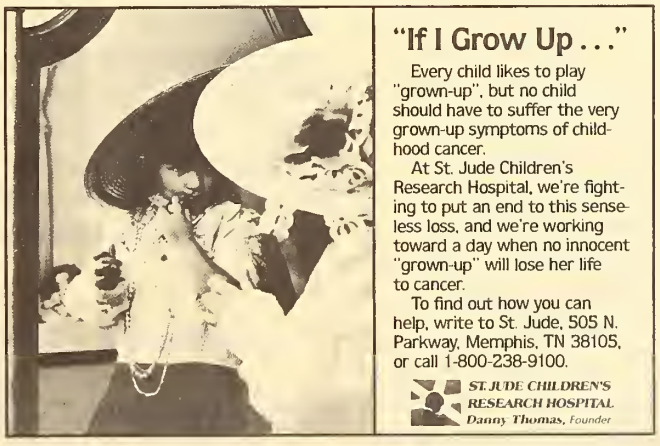
And this is where most discussions stop. But to say there is a right to health care based on need is clearly insufficient. Everybody's needs are different, and it isn't clear whose definition of need (the physician's? the patient's? the Surgeon General's?) should be the standard. Also, in a consumer society we tend to express not only our true necessities but our hopes, wishes and preferences as "needs."

Any claim of a right to health care will have to recognize that there are limits to what society can provide for its citizens. No right is absolute, and the scope of a right to health care, like all rights, is contingent upon the material resources any society can muster. A right to health care is not a right to health, which, of course, no one can guarantee. A right to health care is not even a right to all that is available, or all that any of us may need. Health care competes for resources with a vast array of other social goods — education, defense, and housing, to mention only a few. A right to health care is, however, an aegis to protect the financially disenfranchised and a way of expressing equality. It means that citizens will not be denied health care because of money, and that though we must ration health care, we will not do so by price.

I suggest that what we need is a working notion of a right to health care, that sees health care problems as public and social, rather than as purely private and individual; that sees health care as an agenda of the body politic, without the need to politicize every end-of-life scenario through wars on disease, or Air Force jets flying children in rescue missions for quarter-million-dollar transplants. This will require an outlook that sees health care as important, but not absolute, that is realistic about our health needs and prudent about the extent to which health care institutions and providers can meet them.

With regard to the elderly, a right to health care means that we should not discriminate against the elderly merely because of age. Yet this does not mean that age is irrelevant. To use age as a barrier to health care would be as unsatisfactory as using social worth, merit or ability to pay.

But having said this, we should be clear that age is relevant to health care needs, and cannot be ignored. In some cases it may simply be inefficient and ineffective to offer major high-technology interventions to the very old. And in all cases the needs of the elderly cannot be treated as a separable and isolated item, but must be seen in the context of the relative needs of everyone. Such a perspective will be seen as discriminatory only by those who believe that the health needs of the elderly always take priority. Prudent and realistic policies will treat the needs of the elderly — as well as the needs of all citizens — in a context that respects their special (and often greater) need for services, but does not separate them from the larger commons. ■



Rehabilitation

S.J. PELLIGRA, M.D.

Rehabilitation is a concept that is becoming increasingly familiar to the public and the medical profession. However, the word is not without ambiguity. Old buildings are rehabilitated, as are persons with drug and alcohol addictions. When referring to facilities for the treatment of physically disabled persons, one generally uses the term "comprehensive rehabilitation center."

North Carolina is fortunate in having nine comprehensive treatment centers for persons with physical disabilities located throughout the state: in Asheville, Chapel Hill, Charlotte, Durham, Fayetteville, Greensboro, Greenville, Hickory, and Winston-Salem. Comprehensive inpatient rehabilitation is covered by most third-party payors, including Medicare and Medicaid. Care is provided on an inpatient basis when intensive care is required and when a patient has multiple problems. Each center maintains relatively similar admission criteria, based on national standards. The Moses H. Cone Rehabilitation Center (Greensboro) is a 49-bed inpatient facility with full outpatient and home health services. The Center is designed and constructed to serve patients whose physical rehabilitation needs exceed the scope of services generally offered in an acute hospital setting. Patients who have functional limitations are admitted with the goal of achieving as much independence as possible.

Conditions typically treated in rehabilitation centers include spinal cord and brain injury, as well as stroke and other neurological conditions. In addition, many orthopedic and rheumatological problems are also routinely managed. These may include major joint fractures, amputations, joint replacements, and disabling arthritis.

In the comprehensive rehabilitation setting, care is provided through an interdisciplinary team approach. It is important that the word "interdisciplinary," rather than "multidisciplinary," be used; the former implies a close relationship among the various treatment team members. The rehabilitation team is an efficient melding of highly skilled specialists who work together in achieving realistic goals. These team members may include the physician, rehabilitation nurse, physical therapist, occupational therapist, speech therapist, recreational therapist, vocational counselor, psychologist, social worker, and dietician. Under certain circumstances, there are additional contributors to a patient's care: for example, a prosthetist (a person who makes artificial limbs) when the patient is an amputee.

During a person's rehabilitation center admission, various issues are addressed. These include problems with communication, self-care, mobility, homemaking, and bowel/bladder management; cognitive/perceptual disorders; safety awareness; caretaker education and training; community reintegration; and health maintenance. Team members are trained to treat certain functional problems with enough overlap for maximum effectiveness and efficiency.

The physician who specializes in physical medicine and rehabilitation, known as a physiatrist, provides a vital service, a service that responds both to the increasing recognition that society is responsible for its disabled members and to the increasing scope and sophistication of rehabilitative techniques. Physical medicine and rehabilitation involves diagnostic services and comprehensive treatment and care for patients who suffer from neuromuscular, musculoskeletal, and vascular disorders, and from the medical, psychological, social, and vocational disruptions that such physical problems bring. The physiatrist must be competent in a broad and varied spectrum of skills and have a sensitive appreciation of the patient and his or her family, friends, work, and recreational activities. A four-year residency training program prepares the physical medicine and rehabilitation physician to effectively direct the treatment team and manage the medical complications.

The History of Rehabilitation

When physical medicine and rehabilitation was given formal recognition as a medical specialty in 1947, with the establishment of the American Board of Physical Medicine and Rehabilitation, comprehensive rehabilitation was not taught or practiced in the United States. At that time,

From Moses H. Cone Memorial Hospital, 1200 North Elm Street, Greensboro 27401-1020.

only a few years had elapsed since Dr. Howard A. Rusk had demonstrated to the army that rehabilitation, rather than convalescence, was essential to restore soldiers to fitness for return to duty. Although the benefits of early ambulation were striking, physicians were still focusing almost exclusively on identification and eradication of acute pathology. Dr. Rusk began to refer to rehabilitation as "the third phase of medical care" to be instituted following the first phase, preventive medicine, and the second phase, curative medicine and surgery.

When rehabilitation was applied in this way, it represented a great stride forward. However, only a small minority of chronically disabled patients received rehabilitation as a part of medical management. All too frequently, patients experienced further deterioration during a stage of inactive convalescence. In the mid 1950s, the office of Vocational Rehabilitation reported that the average interval from onset of stroke to the referral for rehabilitation services was four years. Compare that to experience today where the average time for completion of the rehabilitation program after onset of stroke is less than two months.

As Dr. Rusk was quoted, "Rehabilitation of the chronically ill and disabled is not just a series of restorative techniques, it is a philosophy of medical responsibility. Failure to assume this responsibility means to guarantee the continued deterioration of many less-severely disabled persons until they too reach the severely disabled and totally dependent category. The neglect of disability in its early stages is far more costly than an early aggressive program of rehabilitation which will restore the individual to optimal self-sufficiency and functional performance."

The Future of Rehabilitation

The challenge facing the rehabilitation community today is to provide a better quality of life for disabled persons during a time of severe fiscal restraint. In reality, fiscal restraint should provide an opportunity to change the centuries-old tradition of offering disabled people a handout, and to adopt instead the concept of providing a handup. This is a period of time in which resources should be allocated in favor of rehabilitation. In North Carolina, this is indeed taking place. There are now some outstanding facilities for rehabilitation treatment, in addition to a wide array of services.

Over the last fifty years, medicine and surgery have prevented the deaths of countless persons who were critically ill. Many have been cured. However, there also has been an increasing number left with chronic disability. These disabled persons have higher costs for maintenance, in addition to the cost of required medical care, because of the continued disability. Dependency consumes resources without enhancing productivity or quality of life for the patient. The development of rehabilitation as an integral part of comprehensive medical care, and its use in restoring function to persons with continuing impairments, will increase the efficiency of health care. The reduction of dependency through rehabilitation is cost effective.

It is sometimes possible to remove a disability although the disease, or impairment, remains. This simply illustrates that there is no one-to-one relationship between a disease and the residual disability. Disability can be removed even though the disease is unchanged. In rehabilitation programs, residual strengths are evaluated and built upon to "work around impairment" in order to remove disability.

It is important that we each become aware of the licensed and qualified comprehensive rehabilitation programs available in our communities. Through appropriate referral and treatment, we can help patients to achieve major improvements in quality of life. ■

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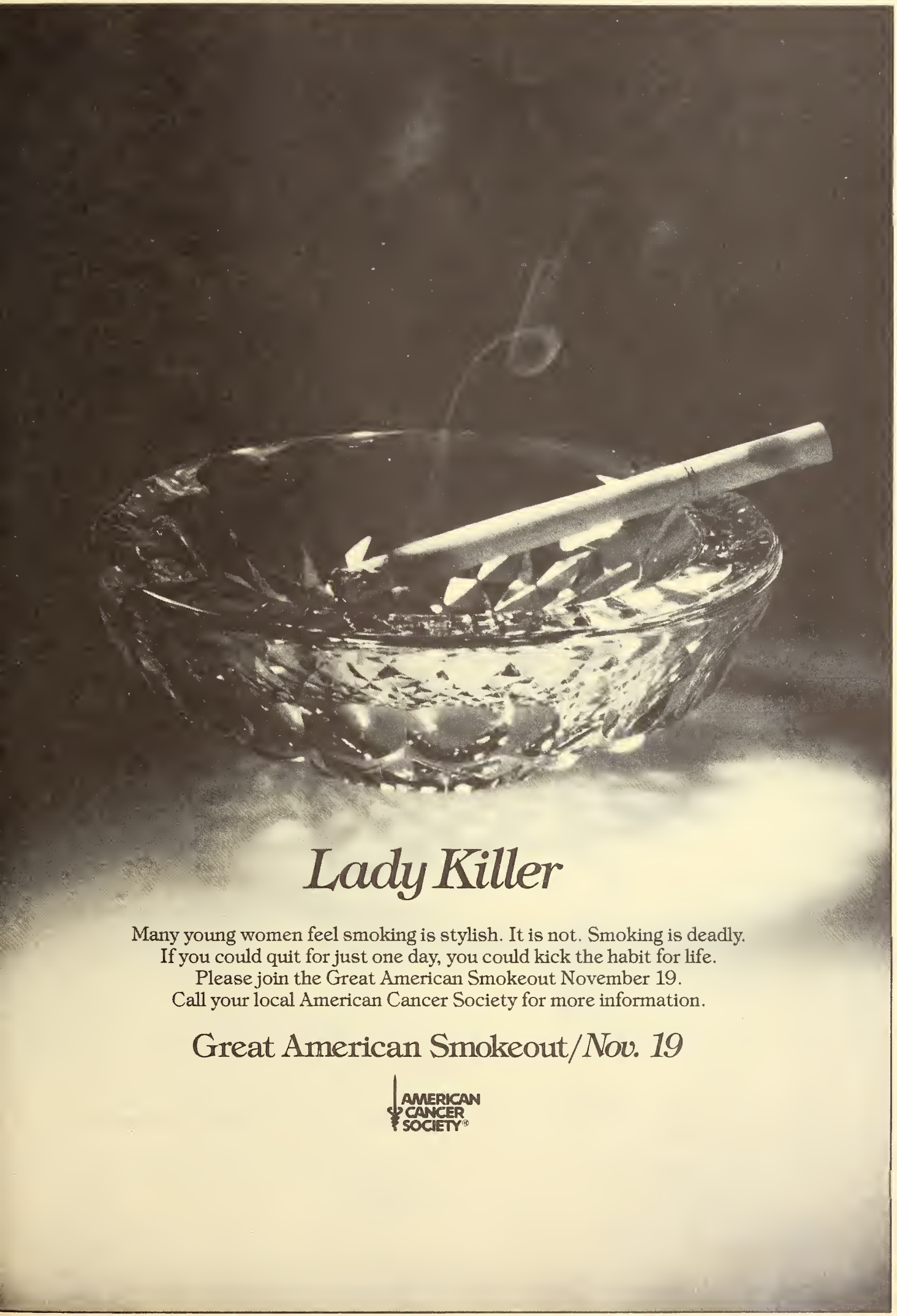
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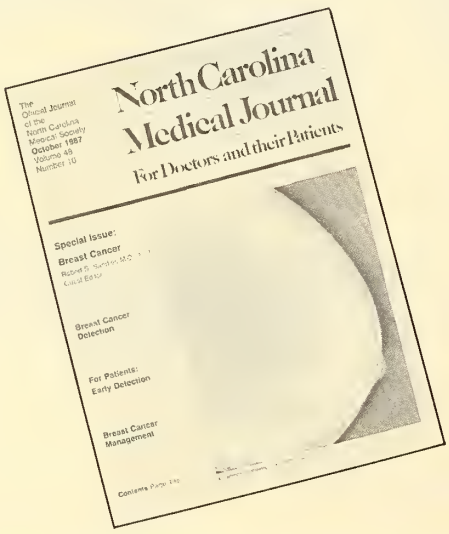
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Cationic Detergent Poisoning

Ronald B. Mack, M.D.

I was in my favorite bookstore a while back and saw a volume entitled "Odes of Horace." It looked to me, at first glance, like a misprint. Could they have meant the "Nodes of Horace"? And who was this dude Horace anyway, whose lymphatic system entitled him to an entire book. Actually the book was entitled the "Odes of Horace";[1] I am not a lymphomaniac.

It turns out that Horace was a famous Roman poet who died eight years before Christ was born. This well educated son of an auctioneer served as a high-ranking officer in Brutus's Army (yes, that Brutus, as in "you too, Brutus?"). He fought in the famous battle of Phillipi but, alas, was on the losing side and lost all of his property. However, he was seen by the great literary patron Maecenas as a potentially great poet. Horace was so grateful to his financial backer that he was buried at his patron's side (he was dead at the time, of course). This short, fat versifier was very famous in his own time and has remained so through two millenia. My favorite ode of his (an ode apparently is a poem written to be sung and is expressive of the personal feeling of the person voicing it) speaks to the brevity of life and the urgent need to seize the day (carpe diem) while you can. Although Horace did not warn against the ingestion of cationic detergents, he should have.

For the first half of this century if you wanted to keep your clothes and yourself and your possessions clean, you used a soap substance. This soap was a salt of a fatty acid, made by combination of an alkali with natural fats or oils or with fatty acids from animal or vegetable sources (gosh, I always wondered what that stuff was made of that my Mom used to wash out my mouth with when I uttered a "dirty" word. Thank goodness today there aren't any dirty words anymore; any child merely has to turn on the TV day or night and hear a litany of words that once were cause for near-capital punishment in many homes). Now you are able to choose from a remarkable variety of cleansing agents that includes *detergents,* non-soap surface active agents, which allow water to "wet" surfaces far more readily and thus produce a cleaner surface.

As with many technological advances in this part of the 20th Century there is a price to pay for "progress." Because detergents are so ubiquitous in the American home, they are a common cause of toxicological events, especially by pre-school ingesters. In some recently reported statistical data from the American Association of Poison Control Centers National Data Collecting Systems, regarding potentially toxic ingestions by children six years or less, pharmaceuticals led the way with 40% of the total, and cleaners and polishing agents were next with 14% of the total.[2] The surface-acting agents (surfactants) used in the home are mixtures of organic and inorganic ingredients and are classified chemically as anionic, cationic, non-ionic and amphoteric. The electrical charge of the chemical entity that makes the molecule water soluble determines the ionic classification. Thus the net charge on anionic detergents is negative, on cationic detergents positive, on non-ionic detergents electric neutrality, and on amphoteric detergents both anionic and cationic. Most household detergents are anionic or non-ionic or a mixture of both. This epistle will only concern itself with the *cationic* variety, also available in the home, but less often.

Cationic surfactant detergents have more potential toxicity than anionic or non-ionic detergents. This article was prompted by a two-year-old child we saw recently at our Medical Center who incurred oral, pharyngeal and esophageal burns after accidentally ingesting such a substance. I'm sure glad that stuff was not available when I was coming up, my Mom would have used it for sure — on me.

The reasons that cationic detergents were chosen for this dissertation is that they are potentially quite dangerous and readily available as disinfectants and fabric softeners. Included in the rubric, cationic surfactants, are three major chemical groups[3] with which health care professionals should be familiar: quaternary ammonium compounds; pyridinium compounds; and quinolinium compounds. Examples are

From Department of Pediatrics, Bowman Gray School of Medicine, Wake Forest University, Winston-Salem 27103.

benzalkonium chloride (Zepherin(R) Chloride), methylbenzethonium chloride (Diaparene(R) Chloride) and cetylpyridinium chloride (Ceepryn(R) Chloride). These products are synthetic derivatives of ammonium chloride. For anyone involved in managing patients who get into trouble with these products, the reading of labels becomes of utmost importance in attempting to figure out the potential toxicity. At the outset, the point must be made that these products are available in different strengths, i.e., the *concentrated* solutions (>7.5%) may result in significant corrosive burns of the oropharynx and esophagus, whereas the more dilute solutions can cause marked tissue irritation.[4] Thus this potential toxin can produce both local and systemic adverse effects.

Clinical toxicity caused by cationic detergents depends, of course, on such variables as the type of surfactant involved, the amount of the chemical, the tissue that is being attacked, the age of the patient, the duration of the exposure, the concentration of the substance and so on. The eyes seem to be an area that can be interfaced with cationic detergents, at times with terrible consequences. For instance, whereas one drop of 0.1% solution of benzalkonium (Zephiran) can cause mild irritation of corneal and conjunctival epithelium, as little as one drop of a 2% to 10% solution of the same substance can cause severe corneal damage. Exposure of the skin to concentrated cationic surfactants can cause dermal necrosis, apparently made worse if the skin was occluded, i.e., with a bandage, etc. If a patient is unfortunate enough to *swallow* one of these cationic detergents, you can reasonably expect that vomiting and diarrhea will ensue. However, if this chemical was of the concentrated type (10-15%), it will burn, baby, burn. The concentrated varieties, usually intended for commercial use, are very caustic and can cause burns of the oropharynx and esophagus. It seems to me that complacency in the caregiver can easily occur vis-a-vis ingestion of this class of detergents, because most of us are programmed to think of classic caustic agents such as sulfuric or hydrochloric acid, sodium or potassium hydroxide when we think of corrosive burns of the upper gastrointestinal tract. We all must learn to read labels and take nothing for granted. Do not assume; investigate!! (Goodness sakes, do I sound preachy? Listen to me carefully or you know WHO may call me home. For I am a member of the PTL — POISONS THREATEN LIFE.)

Treatment

The treatment for this poisoning is non-specific and consists merely of supportive care. If the particular cationic detergent ingested was of the non-concentrated type, then it is reasonable to attempt to dilute the material by giving the patient water or milk to drink (120 to 240 ml in adults and 15 ml/kg or less in children). It is probably reasonable to attempt gastric emptying, after dilution, but this procedure should occur very soon after ingestion because cationic detergents are rapidly absorbed. Induced emesis or lavage may not be necessary in most cases because these products cause emesis quite readily. It is considered good practice to administer activated charcoal to these patients because cationic surfactants are well absorbed. After the charcoal, a saline cathartic or sorbitol would seem to be indicated.

If the product involved was one of the concentrated varieties (>7.5%), treat as you would a caustic burn and attempt dilution with water or milk. Do not induce emesis or perform lavage, but do get an EENT person to esophagoscope the patient to look for esophageal burns. If the eyes are involved, irrigate them with very generous amounts of water for at least 15 minutes and obtain an eye consult if indicated, especially if the concentrated kind was involved. Skin exposure is treated with large amounts of water also. Local damage to the skin can certainly occur, especially with concentrated solutions of these products. This is called getting clean the hard way. Remember that beauty is only skin deep but ugliness, like deep chemical burns, can go all the way to the bone.

The adverse systemic effects of cationic detergents are not exactly a fun way to spend time either. These potentially lethal surfactants can cause rather deep coma, convulsions, and shock with death due to respiratory paralysis. A human fatal dose, by ingestion, is estimated to be between one and three grams.

One particular form of these products, quaternary ammonium sulfate,[5] has the potential to produce pulmonary toxicity manifested by acute alveolar edema and chronic small airway dysfunction. This surfactant product is used as an "anticling" fabric softener. If a lady doesn't use such a substance when doing her laundry, her slip and dress can cling to her body and that may not make anyone happy except me, of course. In order to get into pulmonary difficulty with this material you must work in an area in which the chemical is heavily concentrated or be exposed to its fumes on a long-term basis. Merely washing your step-ins or skivvies in fabric softener will not cause pulmonary problems.

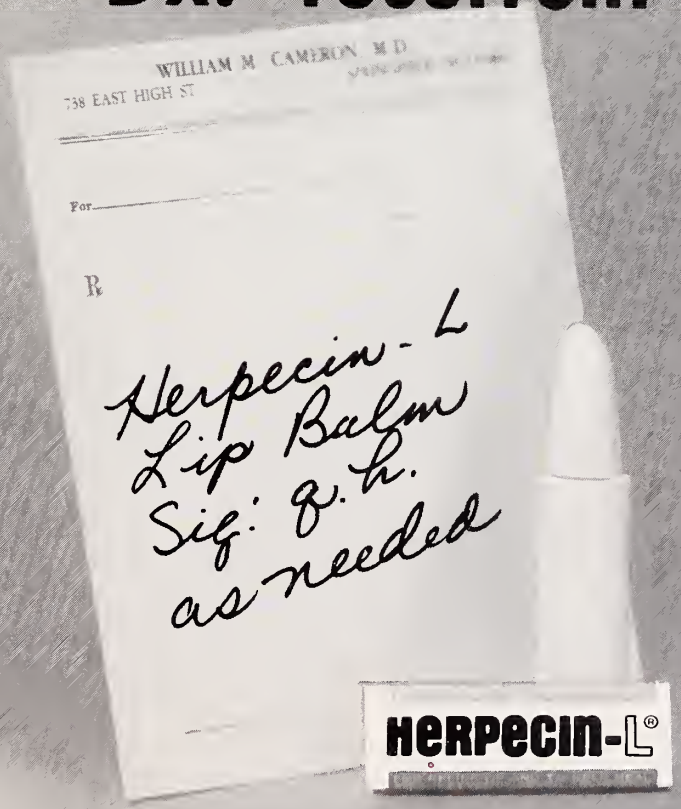
Horace may have been the first author to put on paper the concept "Live fast, die young, and have a good-looking corpse." In any case, he believed in spending each day as if it were the last one. He wrote such memorable lines as: "Pale Death knocks with impartial foot at poor men's hovels and king's palaces," and "Be wise, decant the wine, prune back your long-term hopes. Life ebbs as I speak; so seize each day and grant the next no credit." He also said, "Don't run on 4th down and 15." ■

References

1 Horace — The complete odes and epodes. Penguin Classics, Betty Radice, Ed. New York: Penquin Books, 1983.

2 Litovitz R, Vetri JC. 1984 Annual Report of The American Association of Poison Control Centers National Data Collecting System.
3 Temple AR. Bleaches, soaps and detergents. In: Clinical management of poisoning and drug overdose, Haddad LM and Winchester JF, Eds. Philadelphia, PA: W.B. Saunders Co., 1983, Chapter 62.
4 Poisindex, Micromedex Inc., Vol 53.
5 Arena JM, Drew RH. Poisoning. 5th ed. Springfield, IL: Chas. C. Thomas Co., 1986.

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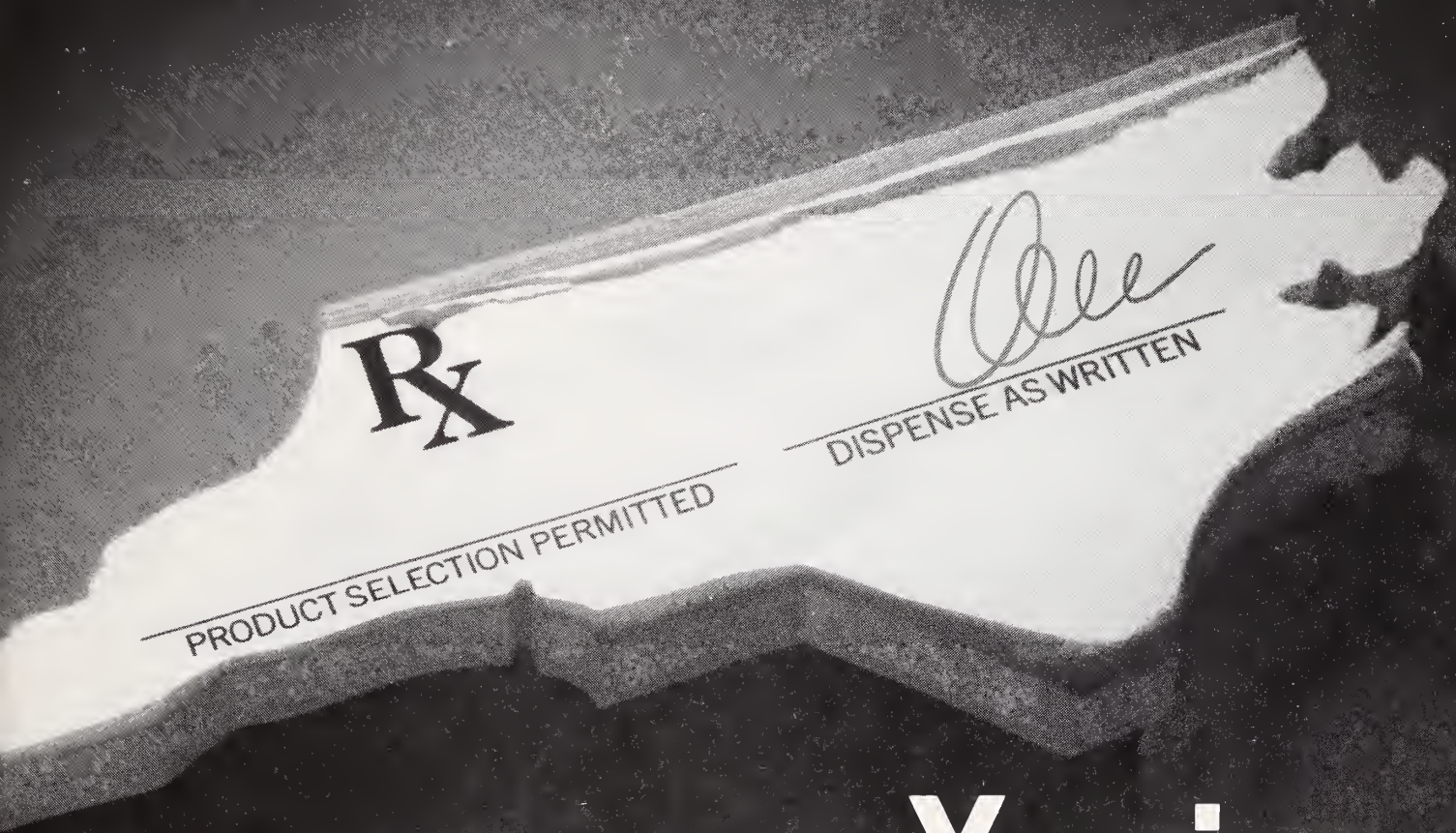
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References: 1. Whitley R, Barton N, Collins E, et al: Mucocutaneous herpes simplex virus infections in immunocompromised patients: A model for evaluation of topical antiviral agents. Proceedings of a symposium on acyclovir sponsored by Burroughs Wellcome Co. and the National Institute of Allergy and Infectious Diseases. *Am J Med* 1982;73(1A):236-240. 2. Nahmias AJ, Roizman B: Infection with herpes-simplex viruses 1 and 2 (third of three parts). *N Engl J Med* 1973;289:781-789. 3. Whitley RJ, Levin M, Barton N, et al: Infections caused by herpes simplex virus in the immunocompromised host: Natural history and topical acyclovir therapy. *J Infect Dis* 1984;150:323-329.

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In the immunocompromised, it can become a deadly serious one.

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INDICATIONS AND USAGE: Zovirax (Acyclovir) Ointment 5% is indicated in the management of initial herpes genitalis and in limited nonlife-threatening cutaneous Herpes simplex virus infections in immunocompromised patients. In clinical trials of initial herpes genitalis, Zovirax Ointment 5% has shown a decrease in healing time and in some cases a decrease in duration of viral shedding and duration of pain. In studies in immunocompromised patients with mainly herpes labialis, there was a decrease in duration of viral shedding and a slight decrease in duration of pain.

By contrast, in studies of recurrent herpes genitalis and of herpes labialis in nonimmunocompromised patients, there was no evidence of clinical benefit; there was some decrease in duration of viral shedding.

Diagnosis: Whereas cutaneous lesions associated with Herpes simplex infections are often characteristic, the finding of multinucleated giant cells in smears prepared from lesion exudate or scrapings may assist in the diagnosis.[1] Positive cultures for Herpes simplex virus offer a reliable means for confirmation of the diagnosis. In genital herpes, appropriate examinations should be performed to rule out other sexually transmitted diseases.

CONTRAINDICATIONS: Zovirax Ointment 5% is contraindicated for patients who develop hypersensitivity or chemical intolerance to the components of the formulation.

WARNINGS: Zovirax Ointment 5% is intended for cutaneous use only and should not be used in the eye.

PRECAUTIONS:

General: The recommended dosage, frequency of applications, and length of treatment should not be exceeded (see DOSAGE AND ADMINISTRATION). There exist no data which demonstrate that the use of Zovirax Ointment 5% will either prevent transmission of infection to other persons or prevent recurrent infections when applied in the absence of signs and symptoms. Zovirax Ointment 5% should not be used for the prevention of recurrent HSV infections. Although clinically significant viral resistance associated with the use of Zovirax Ointment 5% has not been observed, this possibility exists.

Drug Interactions: Clinical experience has identified no interactions resulting from topical or systemic administration of other drugs concomitantly with Zovirax Ointment 5%.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Acyclovir was tested in lifetime bioassays in rats and mice at single daily doses of 50, 150 and 450 mg/kg/day given by gavage. These studies showed no statistically significant difference in the incidence of benign and malignant tumors produced in drug-treated as compared to control animals, nor did acyclovir induce the occurrence of tumors earlier in drug-treated animals as compared to controls. In 2 *in vitro* cell transformation assays, used to provide preliminary assessment of potential oncogenicity in advance of these more definitive lifetime bioassays in rodents, conflicting results were obtained. Acyclovir was positive at the highest dose used in one system and the resulting morphologically transformed cells formed tumors when inoculated into immunosuppressed, syngeneic, weanling mice. Acyclovir was negative in another transformation system.

No chromosome damage was observed at maximum tolerated parenteral doses of 100 mg/kg acyclovir in rats or Chinese hamsters; higher doses of 500 and 1000 mg/kg were clastogenic in Chinese hamsters. In addition, no activity was found in a dominant lethal study in mice. In 9 of 11 microbial and mammalian cell assays, no evidence of mutagenicity was observed. In 2 mammalian cell assays (human lymphocytes and L5178Y mouse lymphoma cells *in vitro*), positive response for mutagenicity and chromosomal damage occurred, but only at concentrations at least 1000 times the plasma levels achieved in man following topical application.

Acyclovir does not impair fertility or reproduction in mice at oral doses up to 450 mg/kg/day or in rats at subcutaneous doses up to 25 mg/kg/day. In rabbits given a high dose of acyclovir (50 mg/kg/day, s.c.), there was a statistically significant decrease in implantation efficiency.

Pregnancy: *Teratogenic Effects. Pregnancy Category C.* Acyclovir has been known to cause a statistically significant decrease in implantation efficiency in rabbits, when given at subcutaneous doses providing mean plasma levels of drug 2.2 times those expected from use in patients with normal renal function.

Reproduction studies were negative for impairment of fertility or harm to the fetus in mice given oral doses, and in rats given subcutaneous doses providing mean plasma levels of drug 84 times and 4 times (respectively) greater than those expected from use in patients with normal renal function.

Acyclovir was not teratogenic after subcutaneous administration of up to 50 mg/kg/day during the period of organogenesis in rats and rabbits; doses up to 450 mg/kg given daily by gavage to mice were not teratogenic. There are, however, no adequate and well-controlled studies in pregnant women. Acyclovir should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when Zovirax is administered to a nursing woman.

ADVERSE REACTIONS: Because ulcerated genital lesions are characteristically tender and sensitive to any contact or manipulation, patients may experience discomfort upon application of ointment. In the controlled clinical trials, mild pain (including transient burning and stinging) was reported by 103 (28.3%) of 364 patients treated with acyclovir and by 115 (31.1%) of 370 patients treated with placebo; treatment was discontinued in 2 of these patients. Other local reactions among acyclovir-treated patients included pruritus in 15 (4.1%), rash in 1 (0.3%) and vulvitis in 1 (0.3%). Among the placebo-treated patients, pruritus was reported by 17 (4.6%) and rash by 1 (0.3%).

In all studies, there was no significant difference between the drug and placebo group in the rate or type of reported adverse reactions nor were there any differences in abnormal clinical laboratory findings.

DOSAGE AND ADMINISTRATION: Apply sufficient quantity to adequately cover all lesions every 3 hours 6 times per day for 7 days. The dose size per application will vary depending upon the total lesion area but should approximate a one-half inch ribbon of ointment per 4 square inches of surface area. A finger cot or rubber glove should be used when applying Zovirax to prevent autoinoculation of other body sites and transmission of infection to other persons. **Therapy should be initiated as early as possible following onset of signs and symptoms.**

HOW SUPPLIED: Zovirax Ointment 5% is supplied in 15 g tubes (NDC 0081-0993-94). Each gram contains 50 mg acyclovir in a polyethylene glycol base. Store at 15°-25°C (59°-77°F) in a dry place.

REFERENCE: 1. Naib ZM et al. Cancer Res *33*:1452-1463, 1973.
U.S. Patent No. 4199574

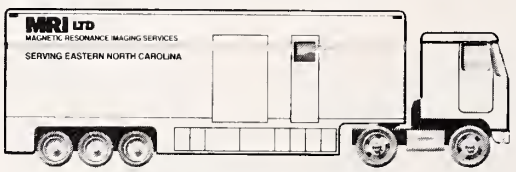
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Prototype PA

James F. Gifford, Jr., Ph.D.

Formal training for physician assistants entered its twentieth year in 1985, with the role firmly established among the ranks of American health professionals. During the past two decades PAs have entered a wide variety of general and specialized practice settings,[1] the success of PAs being due in significant part to their adaptability. This adaptability reflects the complex social origins of the role, which included the increasingly positive value placed on health care by Americans in the twentieth century, the social reform pressures characteristic of the 1960s, awareness in the medical community of other physician-extender models both in this country and abroad, and the many specific needs for clinically trained personnel that emerged, at the Duke University Medical Center and elsewhere, out of the attempt to deliver quality medical care to all Americans.[2]

Historically, however, the most specific forerunner of formal physician assistant training was the family practice of Amos Johnson, M.D., and Henry Treadwell of Garland, North Carolina. The story of their professional relationship, which began in 1940 and ended with the death of Dr. Johnson in 1975, not only recalls the roots of the PA role but also raises the question of how best to conserve and expand the experience of PAs in mid-career when their original practice settings change or close.

Family Background

Garland, North Carolina, was a rural community of approximately 500 in the Piedmont section of North Carolina, the surrounding population consisting of almost equal numbers of whites and blacks. Jefferson and Mary Johnson farmed in the area in the early decades of the twentieth century, but pointed their sons toward the professions. Their eldest son, James, became an engineer of international reputation. The second boy, Jefferson, entered law school and sat eventually on the North Carolina Supreme Court. Mrs. Johnson hoped that her youngest son, Amos, would become a Presbyterian preacher, but the influence of her husband prevailed and Amos, after graduating from Duke University in 1929, entered medical school at the University of North Carolina. After two years he transferred to the University of Pennsylvania, taking his M.D. in 1933.

Following an internship at Jackson Memorial Hospital in Miami, Florida, Johnson returned to North Carolina to join his brother-in-law in practice at Lincolnton. Shortly thereafter, however, Mrs. Johnson was killed in an accident and Johnson returned to Garland temporarily so that his father would not be alone in the house. The temporary arrangement was to last 43 years.

Initially Johnson practiced in his father's house, using one front room as his office and the front porch as a waiting room. His local roots, respected family, and personable manner quickly brought large numbers of patients. He soon married Mary Porter Allan, a laboratory technician whom he met when he was an intern and she a student in Miami. Together they planned and built offices designed to serve as many patients as possible, with office routine reflecting the area's racially based social structure.

The Practice Setting

For the farm families of the Garland area, "going to the doctor" was a social occasion, a chance to visit with friends in town and catch up on the local news. The demands of farming, travel time, and the unpredictability of illness and trauma made the scheduling of medical care difficult. Accordingly, the Johnsons decided to run their practice without making appointments.

Their offices were built with a large waiting room at the front, divided in the center by a wall with a large open door. Whites entered through the front door and blacks at the side. Once inside, all were treated on a first-come, first-served basis, Mrs. Johnson determining the order in her capacity as office manager. Swinging doors separated the waiting room from the treatment area, a large room with an examining table surrounded by six examining rooms, each with a hospital bed. This arrangement allowed Dr. Johnson to call seven patients at a time for treatment, office assistants preparing each of them after routine lab tests from Mrs. Johnson.

After each round of visits, Dr. Johnson called the patients together for what he called "group therapy," instructing

From Department of Community and Family Medicine (History of Medicine), Box 3702, Duke University Medical Center, Durham 27710.

each in turn about regimen and medications while holding a telephone open to the local pharmacy so that the druggist heard exactly what the patient was told. Mrs. Johnson entered this information in the charts and accepted payment, after which the patient went directly to the pharmacy, if necessary, where his or her prescription was already waiting. The large patient volume made possible by this efficient organization helped keep costs low: even in the 1960s the cost of an office visit to Dr. Johnson, routine lab work included, was three dollars.

As the practice grew, the office assistants became the key to efficiency. Not only did they keep the treatment area clean and prepare patients for Dr. Johnson, but they also were responsible for controlling the large number of children who visited the practice and for seeing to it that the noise of conversations in the waiting area did not become too distracting to Johnson. Although the Johnsons occasionally employed an RN, most of their office assistants over the years were young women from the community who were known, both as individuals and by family, to the Johnsons and who were trained by them for the job. Eventually it was felt that a male assistant would be useful, both to prepare the male patients and to deal with the children. Accordingly, the Johnsons hired Henry Lee Treadwell, a recent high school graduate whose aunt was employed by the Johnson family as a domestic and whose entire family was known to them. Treadwell possessed the three qualifications the Johnsons required of their assistants. He was likeable, honest and trainable.

The Training of Henry Treadwell

As it developed, Treadwell possessed two characteristics which were to permit him to go far beyond the role of office assistant. The first was that he was "all ears." He had a remarkable capacity for absorbing information and an insatiable curiosity. The second was that he, like Amos Johnson, was an avid sportsman who loved to hunt. Whenever possible the two men spent hours in the woods, talking medicine from the time they left until the time they returned. What they talked about Johnson then illustrated, as occasion permitted, in the office.

Treadwell's training was by apprenticeship. He quickly mastered the task of maintaining the office routine and was instantly popular with the children. With both Dr. and Mrs. Johnson increasingly pressed for time by the increasing number of patients, each allowed "Buddy," as Treadwell was known, to observe procedures, to learn them under direct supervision, and to handle them himself once competent. When the doctor heard something interesting through his stethoscope, Treadwell listened both to the sound and then to an explanation. In the early days Johnson would begin to suture a wound, then allow Treadwell to finish. Soon he was suturing without direct supervision. Similarly, "Monk," as Mrs. Johnson was known, taught Treadwell about blood tests and urinalysis, procedures which she often left to him once he was competent.

His competence won him respect from the entire community, and he was the object of particular devotion from the children, who frequently demanded, whatever the procedure, that the doctor "let Buddy do it." Treadwell gained for himself not only technical competence but also an appreciation of the relationship between science and personality in the art of medicine. As his understanding grew, the scope of his conversations with Johnson broadened, to the delight of both.

In the absence of the Johnsons, Treadwell increasingly handled emergencies at the office, working up patients and referring them to Sampson County Memorial Hospital in Clinton, the county seat. So precise were his reports that physicians there accepted his referrals as if they had come from Johnson himself. Later this was true also at the Duke University Medical Center, the central referral hospital for the area. The drug and equipment salesmen who called on the Johnsons also came to rely on Treadwell, explaining their wares and depending on him to replay their spiels to the doctor when he had time available. From almost every conversation, Treadwell learned something new.

He learned even more from his interactions with the medical students who rotated through the practice as preceptees. Dr. Wilburt C. Davison, Professor of Pediatrics and Dean of the Duke University School of Medicine, believed that his house staff should be trained in practice organization and family medicine, and for these Johnson came to have a nationwide reputation. From his first days in practice, Johnson found that his medical training did not have the correct balance for general family practice. Early on he sought additional instruction, first in dermatology, then in pediatrics, then in other subjects. He became a powerful advocate of reforming the medical curriculum to prepare doctors for family practice by offering them an intense but more generalized experience. Davison shared these concerns, and sent students to Johnson both to learn family practice and to absorb Johnson's values.

Because of his years of experience, Treadwell often became, however inadvertently, an instructor to these students in practical matters. On one occasion, while a student was ransacking his manuals to diagnose what turned out to be a black widow spider bite, Treadwell left, obtained antivenom from the pharmacy, loaded a syringe, and handed it to the student when he asked "Do you have black widow spiders around here?" As the students learned detail from him, Treadwell learned theory from them and became known personally to a generation of Duke graduates.

Family Practice and the PA Role

Beginning in the 1950s, concern mounted in America that medicine was becoming over specialized and that there was need to increase the number of family physicians. Amos

Johnson became a national spokesman for this concern. As a charter member of the North Carolina Chapter of the American Academy of Family Physicians (1948), and later as president of the North Carolina chapter, president of the North Carolina Medical Society, national president of the Academy, and delegate from North Carolina to the American Medical Association, he lobbied both in the state capital at Raleigh and in Washington. His goals were establishment of family practice as a recognized specialty, with family practice programs in the state's medical schools, and passage of what became the Family Practice of Medicine Act (1969).

He was a consummate politician, and his leadership was applauded across the political spectrum from Senator Edward M. Kennedy to Senator Jesse Helms. Congressman H. Richardson Preyer credited Johnson with doing "More than any one man to promote the necessity of Family Practice." His political activities brought dozens, if not hundreds, of medical and political leaders into contact with the details of his personal practice and, necessarily, into general awareness of his assistant, Henry Treadwell. As one doctor recalled, "As we made rounds in his office with his black physician's assistant of thirty years, I always learned something new . . . "[3]

By the mid-1960s, when the political activity leading to the establishment of family practice as a specialty was at its height, the evolution of Henry Treadwell from office assistant to physician assistant also was complete. Involvement in the practice and the medical activities of Amos Johnson provided Treadwell with a unique apprenticeship. He was trained both in clinical procedures and in their supporting laboratory technologies, although his formal education had stopped at high school. His primary roles were to multiply the hands of his host physician in the conduct of practice and to do whatever else was necessary to ensure efficient administration. Because he was trained in advance for no single set of responsibilities, he was free to develop himself in accord with the unique circumstances of his practice setting. And, because of his personal competence and his association with Amos Johnson, he was widely known and generally respected.

Among those who had a general knowledge of his role was Dr. Eugene A. Stead, Jr., Professor and Chairman of the Department of Medicine at the Duke University Medical Center. During the early 1960s Stead was charged with developing clinical staff for the specialty services of Duke Hospital, increasing the number of area physicians attending the continuing education programs of the Medical Center, and being generally attentive to the task of improving delivery of health care in the Carolinas. The training of a new type of assistant to physicians would contribute in each of these areas.[4]

Although Amos Johnson himself was not sure that formal training of PAs could succeed as well as apprentice training, Johnson's success with Henry Treadwell helped shape Stead's prototype definition of the PA role and win federal support for PA training. In recognition, the Duke program awarded Treadwell an honorary certificate of graduation in 1968.

End of the Practice, and a New Question

By the time of Treadwell's symbolic graduation he had been in practice with Amos Johnson for almost thirty years. Both men could foresee the day when the practice would close. What, then, would Treadwell do? While his clinical skills and perhaps his administrative ability were transferable to another setting, the personal relationships that were also part of the basis of his professional respect were unique to Garland, and the routines that gave shape to his administrative ability were unique to his practice. In anticipation of the possibility that no suitable medical situation would be available, Johnson bought a farm for Treadwell that adjoined one that had been left to Treadwell's wife. As events developed, no suitable medical situation presented itself. When Johnson died in 1975 some of the physicians at the hospital in Clinton discussed a position for Treadwell, as did physicians from Elizabeth City, who took over some of Johnson's patients. Either position, however, meant relocation. Treadwell did some work for the physicians who took over the patients, but it just wasn't the same. Today Treadwell runs a restaurant in Garland. His personal relationships thus were maintained, but his experience was lost to medicine.

As the first generation of formally trained PAs reaches mid-life and mid-career, some will find themselves in situations analogous to Treadwell's. The uniqueness of each PA practice setting and the dependence of each PA upon the license of a supervising physician mean that some PAs will be more successful than others in new roles when a sponsoring physician retires or dies or a specialty agency closes or changes function. Not only may the matching of skills to situations be chancy, but the dynamics of older, and more expensive, PAs seeking positions with younger physicians have yet to be examined in experience. There may well be need for PAs as a professional group to seek new and rewarding areas of service and practice for their most experienced men and women. ■

References

1 Perry HD and Carter RD (eds). Alternatives in health care delivery: emerging roles for physician assistants. St. Louis: Warren H. Green, 1984.

2 Carter RD and Gifford JF Jr. The emergence of the physician assistant profession, in Perry HB and Breitner B (eds). Physician Assistants: their contribution to health care. New York: Human Sciences Press, 1982, p. 19.

3 Various authors. Amos Neill Johnson, M.D. Tar Heel Practitioner 1975;26:passim.

4 Stead EA Jr. Conserving costly talents, proving physicians' new assistants. JAMA 1966:182-3.

"De Facto Collusion" in the Health Insurance Industry

Implications for Physicians

James P. Weaver, M.D.

The health insurance industry has consistently shaped its terminology to increase its influence over the health care market. By the use of carefully chosen phrases, the insurance companies have attempted to publicly label physicians as unreasonable, wasteful, and "no better, or different, from anyone." This tactic is helping them gain control of a once physician-dominated realm. For example, the recent effort of the Travelers Insurance Company to label itself "Patient Advocate" is an escalation of this linguistic technique. It indicates an attempt by an insurance company to usurp the traditional role of the physician.

The verbal manipulation of the image of the physician by multiple competing insurance companies demonstrates the principle of "de facto collusion" which the health insurance industry is using so successfully. If organized medicine is to defend any domain in the delivery of health care, it must follow the example of the insurance industry, and respond with "de facto collusion" of its own.

(Un)usual, (Un)customary, (Un)reasonable

One of the oldest and most effective phrases is the "usual, customary, and reasonable" used by Blue Cross. As old as the company itself, this phrase has stood the test of time. It is still used, behind the shield of the legal constraints against "price fixing," to conceal the complete pricing picture, and to place those who are outside its secret limits immediately into the category of "unreasonable." Who is to know that "the ninetieth percentile at the seventy-fifth percentile with a twenty percent withhold" is the level used to determine what is "reasonable"? Can a charge that is "unusual, uncustomary, and unreasonable" possibly be justified or fair? No physician would wish to be labeled in such a manner, and most have tried to place their charges to avoid this designation. Patients are most often inexperienced, worried, and stressed, and have little objective information in their medical encounters upon which they may base conclusions. Receiving a check from your insurance company that states "your doctor's charges are greater than the usual, customary, and reasonable" effectively places the physician in a compromised position in the eyes of his or her patient. This is precisely what Blue Cross is trying to accomplish.

Costwise Providers and Patient Advocates

Blue Cross has attempted to label as wasteful those physicians who do not join the Blue Cross insurance plans. By naming a plan "Costwise," and the "joiner" physician a "Costwise physician," there is an inference that the physician who did not sign up is "cost foolish," or unconcerned about costs. The policy of sending the check to the patient with the statement that the physician is not a "cost wise" physician is particularly misleading to the public. It would be more honest, albeit not as effective, for Blue Cross to simply say that the patient's physician did not wish to submit to the conditions of the Blue Cross contract to physicians. Blue Cross has effectively used this catch phrase to label the physician derogatorily in the eyes of the public.

Because they deal with many different entities, the insurance companies introduced the term "provider" as a convenience. Their "convenience," however, resulted in the added dimension of removing the term "physician" from our designation. The implication, that the physician is just another "provider," is a great advantage to the insurance industry. Besides deserving no special treatment or compensation for their "providing," physicians are instantaneously divested of the esteem associated with the old terminology. This change is effectively contributing to the transformation of the physician from the "captain of the ship" to one of the crew. Physicians are now to be viewed no differently from any of the "providers": the impersonal hospital, the nurse practitioner, the physical therapist, or the dietitian.

"Providers" are a new breed, more easily subjected to the restrictions and interventions of the third parties. Second

Durham Clinic, P.A., 1830 Hillandale Road, Durham 27705.

opinions, utilization review, denial of claims, and "unnecessary operations" somehow are applied to "providers" more easily than to "physicians." This terminology has caught on so rapidly that I have heard physicians refer to themselves as a patient's "primary provider."

Physicians will do better if they do not abandon their traditional label for the modern insurance company substitute. It is important that we continue to view ourselves as "physicians," and to recognize the distinction. As he or she works for an insurance company, a "provider" will sacrifice much professional freedom. A "physician," working for his or her patients, is not placed in the same compromising position.

In addition to re-naming the physician's role, at least one insurance company is re-naming its own role to the detriment of physicians. Recently, the Travelers Insurance Company has made a verbal attempt to shift the traditional role of the "Patient Advocate" from the doctor to the insurance company. The utilization review nurses at The Travelers now refer to themselves as "Patient Advocates." Their role, as defined in letters to patients, is to "help you (the patient) make more informed medical decisions." These "Patient Advocates" inform the patient that they will be contacting the "treating physician at regularly scheduled intervals to review whether the proposed length of stay is appropriate or should be modified."

I have always believed that it was the role of the physician to help the patient make "informed medical decisions." It appears that The Travelers believes otherwise. The move to usurp the usual province of the physician is a new and malignant escalation of this verbal assault. Other terms, such as "provider," "costwise," or "unreasonable," were used to make the public believe the physician was something other than his or her true self. Now the core of the professional life of the physician — our traditional role as Patient Advocate — has become the target at which The Travelers has taken aim. The implication that The Travelers will monitor the physician for the "good" of the patient's medical care is an attempt to strip physicians of their professional identity.

De Facto Collusion: Fighting Fire with Fire

Physicians remain at a disadvantage in this struggle. The 1975 Supreme Curt decision in *Goldfarb v. Virginia State Bar* placed the "learned professions" under the close scrutiny of the Federal Trade Commission. As "competitors," physicians are now not allowed to act as a group because these actions may be considered "in restraint of trade" and may result in antitrust violations. It seems clear, however, that because of its "usual and customary" methods, the health insurance industry is approaching the medical profession as a unified force. Even though the individual insurance companies are obvious competitors, they are acting toward the Medical Profession as if they are cooperating with each other. In this sense they have used "de facto collusion." Their actions, not only the verbal assaults, but the "organizational" interferences as well, are affecting the profession of medicine as if they originate from a single source.

The lesson for Medicine is actually quite simple. The reason the insurance industry has been so effective in its effort to control the health care market is its singleness of purpose. Medicine must also develop this sense of common direction. Medicine must begin to function with the purpose and the same force of "de facto collusion" that the insurance industry has shown us.

"De facto collusion" occurs after the individuals in a group have comprehended their common predicament and goals, and have begun to act as a unit. If fifty people are sitting in burning building, they do not have to have a meeting to decide to leave. They sense the danger and leave, as a group.

To gain this insight, physicians must begin a new effort to educate one another. We must inform each other of what is happening to our lives and to our ability to practice medicine. We must begin to write, read, and talk with each other on a regular basis. Which group has joined which HMO, and why? Which insurance companies are coming into town, and what is their pattern of operation in other cities in which they have operated? What are the experiences of other physicians in my town in dealing with a particular insurance company? How is this or that insurance company affecting the care of my patients? What is happening to my income since I joined "X" insurance company? Chances are that your experiences are similar to those of your associates. It is a thorough understanding of these experiences that will begin to paint a picture of the "situation" for all of us. Only then can we hope to gain the common level of experience that will allow physicians to begin to act with a collective direction, without collusion and within the constraints of the law.

Finally, if Medicine is to maintain any element of influence in our future health care delivery system, it must respond to these recent pressures with the same basic ethic that allowed it once to flourish. If we can follow the central teaching of Medicine, that the Patient is the single most vital concern in all medical encounters, we, as physicians, will surely find a proper course and eventual success in the conflict ahead.

Because of the verbal attack by the insurance industry, Medicine has actually been given an opportunity to reevaluate the meaning of our "Profession." As physicians, we must protest the labels "provider," "unreasonable," and "costwise," and reaffirm our traditional role of Patient Advocate. As we educate our patients and ourselves to the significance of these terms, our professional self-respect will improve, and we will certainly develop a clearer sense of our common professional predicaments. This understanding may help our currently fragmented profession begin to act with greater unity and direction as Medicine begins to utilize "de facto collusion" of its own. ■

EDITORIAL

American Teens and Birth Control

Commentary

S. DuBose Ravenel, M.D.

The Report on a survey by Planned Parenthood Federation in the May issue of NCMJ (American teens speak, 1987;48:267-70) is of interest to those who share concern about the problem of unmarried teenage pregnancies. Careful analysis of the complete study* from which the Report was derived reveals several facts not mentioned in the Report but of equal or greater interest in making conclusions from the data obtained.

Planned Parenthood makes a point that many teenagers are sexually active, but many do not usually use birth control, with high rates of teenage pregnancy being the "inevitable result." They stress increasing the use of birth control as a solution. In order for increased use of birth control to lead to a reduction in teenage pregnancies, it must be assumed that increased education in and use of birth control among unmarried adolescents does not lead to an increase in sexual activity or that any such increase would be outweighed by a reduction in pregnancy rates. The idea that increased availability and use of contraceptives among teens would lead to a reduction in pregnancy rates is an unproven assumption specifically mentioned in the text of the poll. Findings included within the data from which the Report was written, but not mentioned in the Report, raise concern about the possible effect of increased sexual activity related to increased birth control education:

1 Teenagers who talked with their parents about sex *and* birth control were more likely to have had intercourse than those who had talked about sex but not birth control.

2 The rate of sexual activity among teens who had a "comprehensive" sex education course in school (defined as including information on contraception) was more than one-third higher than among teens exposed to sex education without birth control information or not provided sex education in school.

Sources other than Planned Parenthood have concerns about the possibility of increased teenage sexual activity following provision of contraception, including the following: one year after starting oral contraceptives a group of teenage clinic patients in Detroit were found to be "moderately more" sexually active, having intercourse an average of 4.3 times a month before admission to the clinic and 6.8 times a month one year later.[1] Furstenberg commented in 1981 that "even the most dedicated proponents of widespread contraceptive information availability for teenagers are aware that their efforts may promote sexual activity . . ."[2] The National Research council in its widely quoted report "Risking the Future" acknowledges that birth control information and provision to adolescents is associated with increased rates of sexual activity, and suggests the possibility that this may be a causal relationship.[3] Marsiglio and Mott point out that adolescents who have previously taken a sex education course are "somewhat more likely" than those who have not to initiate sexual activity at ages 15 and 16.[4] Pietropinto found that 81% of 400 randomly selected family physicians and psychiatrists who responded to a nationwide survey on contraception believed that increased availability of contraceptives had led to increased sexual activity among teenagers.[5]

Finally, and most importantly, the issue of pregnancy rates among teens exposed to sex education with birth control information/availability is not addressed by the Planned Parenthood poll. Olsen and Weed in an exhaustive analysis of data from 50 states have shown that provision of family planning services to adolescents is associated with an increase in pregnancy rates and that this association is not explained by the logical possibility that such an increase would simply reflect placement of such services in areas of greatest need.[6] Despite provision of birth control information and prescriptions in school-based health clinics (SBCs), either directly or through referral, no reduction in pregnancy rates in the population exposed to such programs has been confirmed. The prototype for such clinics, in St. Paul, Minnesota, in 1980 was reported to have shown a 40% decline in *pregnancies,* attributed to the family planning services rendered, along with a 23% reduction in fertility.[7] Subsequently the administrator of the St. Paul SBCs has reported

*The references to the "complete study" from which the Report was derived are to the complete, original poll published by Planned Parenthood, not to the pamphlet from which the highlights were selected for the Report.

Pediatric Teaching Service, Moses H. Cone Memorial Hospital, Greensboro 27401-1020

that a decline in *births* was found but that whether the decline was due to a decrease in the number of pregnancies or to an increase in abortions could not be determined.[8]

Another frequently cited program providing family planning services to teens in Baltimore clinics located close to schools reported a significant decline in pregnancy rates among students exposed to the program compared with students not enrolled in the program.[9] Pregnancy rates were defined as a percentage of sexually active students only, however, so that if, as a result of the program, pregnancies increased, but less markedly than sexual activity increased, an actual increase in pregnancies would appear as a reduction. Using data from 1974 to 1980 nationwide, the United States Department of Health and Human Services reported this exact phenomenon; pregnancies among 15- to 19-year-olds increased by 8.2%, but if shown as percent age of sexually active teens only, pregnancies appeared reduced by 5.7%.[10]

It is of interest, furthermore, that although the Baltimore data were reported to show an *average* of seven months' "apparent postponement" of first intercourse among students exposed to the program for three years, of the more than 1,000 initially enrolled only 96 girls had three-year exposure, and the number of girls who "apparently postponed" coitus is not provided.

Pregnancy rates among teens using oral contraceptives with a high rate of compliance have been reported to be 9.9% to 13%,[11] compared with a pregnancy rate in the entire teen female population of 10%. If, therefore, sex education and birth control education/availability are causally related to increased rates of sexual activity in teens, with pregnancy rates among high-compliance contraceptive users similar to those in the teen population as a whole, Planned Parenthood's focus on removing barriers to the use of birth control among unmarried teens has considerable potential for inadvertently aggravating the very problem it is designed to alleviate.

Another finding in the poll which was not noted in Planned Parenthood's Report was that only 14% of the sexually active teenagers who themselves did not usually use birth control attributed their not using protection mainly to a lack of knowledge or access. Therefore, along with possible undesirable effects, it is doubtful that education and availability would significantly affect consistency of use of birth control among sexually active teens. Cutright, in commenting on the failure of contraceptive programs to decrease pregnancies among unmarried teens, said in 1972, "areas with weak programs or no programs at all experience smaller increases or larger declines (in pregnancy) than are found in (areas with strong contraceptive programs)."[12]

These observations leave aside the fact that to condone or promote contraception among unmarried teenagers implies approval of what is in many states illegal behavior, and also directly opposes the safer and more appropriate educational focus on promoting premarital abstinence. It is sexual intercourse, not "failure to use contraception," that causes pregnancy.

Cervical cancer is another issue of concern. Barron in his report of consequences of sexual activity in British teens under 16 years of age found that the risk of carcinoma of the cervix doubled in women who began sexual activity before the age of 17. He thus pointed out the combined medical and moral basis for discouraging sexual activity in young teens.[13]

It is time to follow the American Medical Association's 1984 resolution promoting premarital abstinence, and to support and encourage other teenagers to join the 72% of adolescent girls who report abstaining from sex, rather than to advocate policies that may compound the problem. ■

References

1 Reichelt PA. Changes in sexual behavior among unmarried teenage women utilizing oral contraception. J Population 1978;1:57.

2 Furstenberg FF, Lincoln R, Menken J. Teenage sexuality, pregnancy, and childbearing. Pittsburgh: University of Pennsylvania Press, 1981.

3 National Research Council. Risking the future-adolescent sexuality, pregnancy, and childbearing. Washington, D.C.: National Academy Press, 1987, p. 165.

4 Marsiglio W, Mott FL. The impact of sex education on sexual activity, contraceptive use, and premarital pregnancy among American teenagers. Fam Plann Perspect 1986;18:151.

5 Pietropinto A. Survey on contraception analysis. Medical Aspects of Human Sexuality 1987 (May):147.

6 Olsen JA, Weed SE. Effects of family-planning programs for teenagers on adolescent birth and pregnancy rates. Family Perspective 1986;20:133.

7 Edwards LE, Steinman ME, Arnold KA, et al. Adolescent pregnancy prevention services in high school clinics. Fam Plann Perspect 1980;12:14.

8 Kenney AM. Special report: school-based clinics: a national conference. Fam Plann Perspect 1986;18:44-6.

9 Zabin LS, Hirsch MB, Smith EA, et al. Evaluation of a pregnancy prevention program for urban tcenagers. Fam Plann Perspect 1986;18:119.

10 Centers for Disease Control. Teenage pregnancy and fertility trends - United States, 1976, 1980. MMWR 1985;34:277.

11 Zelnik M, Kantner Jf. Sexual activity, contraceptive use, and pregnancy among metropolitan-area teenagers: 1971-1979. Fam Plann Perspect 1980;12:236.

12 Cutright P. Illegitimacy in the United States: 1920-1968, in Parke R, Westoff CF (eds), Demographic and social aspects of population growth. Washington D.C.: U.S. Government Printing Office, 1972, p. 121.

13 Barron SL. Sexual activity in girls under 16 years of age. Br J Obstet Gynaecol 1986;93:787.

In Time

Brent Weston, M.D.

I evaluated an infant for "failure to thrive." His mother was ineligible for adequate support, and she shared the infant's formula. At this time, there was a rather bitter attack on the medical establishment in the lay press (Newsweek, Jan. 26, 1987), and I was working on choosing a research fellowship (molecular biology).

I see a time when we will fix a gene
To heal his heart, or save her brain;
To stop a tumor, and lift the pain.

But few will seek our care
That dying day of cure;
A time when hungry mothers drink
Their infants' meager share;
And plastic hearts still beat
On greens in West Palm Beach.

And yet in time, the Oath holds true:
To use our gift with care,
Not pride, or fad, or greed;
To give ourselves for those in need.

Pediatric Resident, North Carolina Memorial Hospital, Chapel Hill 27514.

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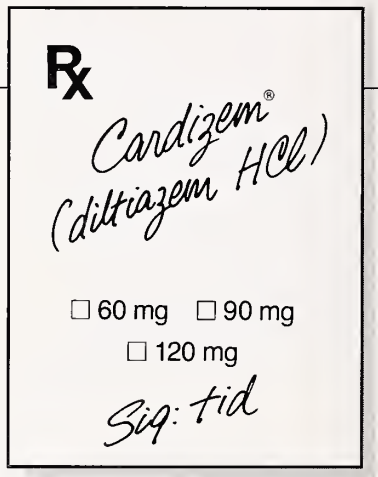
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CONTRAINDICATIONS
CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. ***Cardioc Conduction.*** *CARDIZEM prolongs AV node retroctory periods without significantly prolonging sinus node recavery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormolly slaw heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1,243 potients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetol's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.*
2. ***Congestive Heart Foilure.*** *Although diltiazem hos o negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function hove not shown o reduction in cardiac index nor consistent negative effects on contractility (dp/dt).*
   Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Coution should be exercised when using the drug in such patients.
3. ***Hypotension.*** *Decreases in blood pressure ossociated with CARDIZEM therapy moy occasionally result in symptomatic hypotension.*
4. ***Acute Hepatic Injury.*** *In rare instances, significant elevations in enzymes such as alkaline phosphatase, CPK, LDH, SGOT, SGPT, and other symptams consistent with acute hepatic injury hove been noted. These reactions have been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertain in most cases, but probable in some. (See PRECAUTIONS.)*

PRECAUTIONS
General. *CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervols. The drug should be used with caution in potients with impaired renol or hepatic function. In subocute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associoted with histalogical changes in the liver which were reversible when the drug wos discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.*

Drug Interoction. *Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)*

Controlled and uncontrolled domestic studies suggest that concomitont use of CARDIZEM and beta-blockers or digitolis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increose serum digoxin levels up to 20%.

Corcinogenesis, Mutagenesis, Impoirment of Fertility. *A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.*

Pregnoncy. *Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatol studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.*

There are no well-controlled studies in pregnont women; therefore, use CARDIZEM in pregnant women only if the potentiol benefit justifies the potential risk to the fetus.

Nursing Mothers. *Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk moy approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infont feeding should be instituted.*

Pediatric Use. *Safety and effectiveness in children have not been established.*

ADVERSE REACTIONS
Serious odverse reactions have been rore in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cordioc conduction abnormalities have usuolly been excluded.

In domestic ploceba-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy wos not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associoted with the pharmacology of calcium influx inhibition. In many cases, the relotionship to CARDIZEM has not been established. The most common occurrences as well as their frequency of presentation are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%). In addition, the following events were reported infrequently (less than 1%):

Cardiovasculor:	*Angina, arrhythmia, AV block (first degree), AV block (second or third degree — see conduction warning), bradycardia, congestive heart failure, flushing, hypotension, polpitations, syncope.*
Nervous System:	*Amnesia, gait abnormality, hallucinations, insomnia, nervousness, poresthesia, personality chonge, somnolence, tinnitus, tremor.*
Gastrointestinal:	*Anorexia, constipation, diarrhea, dysgeusia, dyspepsia, mild elevotions of alkaline phosphatase, SGOT, SGPT, and LDH (see hepotic warnings), vomiting, weight increase.*
Dermatologic:	*Petechiae, pruritus, photosensitivity, urticario.*
Other:	*Amblyopia, dyspnea, epistoxis, eye irritation, hyperglycemia, nasal congestion, nocturia, osteoarticular poin, polyuria, sexuol difficulties.*

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: alopecia, gingival hyperplosia, erythema multiforme, and leukopenia. However, o definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

Issued 9/86

See complete Professional Use Information before prescribing.

References: ***1.*** *Schraeder JS: Mod Med 1982;50(Sept):94-116.* ***2.*** *Cahn PF, Braunwald E: Chronic ischemic heart disease, in Braunwald E (ed): Heart Disease: A Textbook of Cardiovascular Medicine, ed 2. Philadelphia, WB Saunders Co, 1984, chap 39.* ***3.*** *O'Rourke RA: Am J Cardiol 1985;56:34H-40H.* ***4.*** *McCall D, Walsh RA, Frahlich ED, et al: Curr Probl Cardiol 1985;10(8):6-80.* ***5.*** *Frishman WH, Charlap S, Goldberger J, et al: Am J Cardiol 1985;56:41H-46H.* ***6.*** *Shapiro W: Consultant 1984;24(Dec):150-159.* ***7.*** *O'Hara MJ, Khurmi NS, Bowles MJ, et al: Am J Cardiol 1984;54:477-481.* ***8.*** *Strauss WE, McIntyre KM, Parisi AF, et al: Am J Cardiol 1982;49:560-566.* ***9.*** *Feldman RL, Pepine CJ, Whittle J, et al: Am J Cardiol 1982;49:554-559.*

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Letters to the Editor

On child safety

To the Editor:

To measure the prevalence of two important preventive practices in the parents/guardians of a pediatric age population, 125 consecutive patient encounters by a single physician were evaluated for seatbelt or car seat use on the trip to the clinic and for the presence of Ipecac in the child's home. The population sampled is largely indigent and from a moderate-size North Carolina city.

These two practices were chosen for study because of their potential great benefit. It is well established that motor vehicle accidents are the leading cause of death in the five to 14 age group. Less deadly but affecting perhaps one million children yearly are accidental toxic ingestions, for which Ipecac syrup is an important mode of secondary prevention of ill effects.

The results, summarized in the table below, show a reported seatbelt use rate of 74%. Whatever the social or legal influences behind it, this reported rate is reassuring evidence that seatbelt or carseat use has wide support among parents of this pediatric population. Interestingly, 31% of non-belt use was due to the lack of belts on city buses.

The data on Ipecac is less encouraging; nine of ten parents did not keep Ipecac in the home. However, 62% of those reporting Ipecac in the home had received samples from a county health department. This is evidence of the positive effect a local health department may have on important preventive measures in child safety.

	Yes (%)	*No (%)*	*Total*
Child in seat belts or car seat on the trip to the clinic	93 (74)	32 (26)	125
Ipecac kept in the home	16 (15)	91 (85)	107

William A. Price, M.D., M.P.H.
1408 N, Mangum St.
Durham 27701

References

1 Behrman RE, Vaughan VC. Textbook of pediatrics. Twelfth ed., 1983, p. 5.
2 Weinberger HL. Ipecac: the old standby is still the best bet. Contemporary pediatrics. April 1987:44-54.

About a General Accounting Office report

To the Editor:

Of significance to every practicing physician is the recently published General Accounting Office report concerned with medical professional liability which contains specific recommendations. Because this is the product of an extensive indepth study it is certain to gain the attention of many legislative bodies.

The report has sections devoted to reducing injuries, improving communication, reforming tort law, providing alternative dispute resolution, and one devoted to the insurance industry. Medical incompetence was cited as a significant issue to be resolved and improved peer review was recommended. They suggested that risk management training be made mandatory.

They emphasized the need for improved communication and advocated tort reform which would hopefully result in more efficiency, predictability, and equity in the way that medical malpractice claims are resolved. Alternate dispute resolution suggestions included arbitration screening panels and no fault. They recognized that there is a potential for resolving claims in a more efficient, timely, and equitable manner, but stated that a lack of data prevented them from making specific recommendations. They indicated that "reasonable and correct" regulation of the professional liability insurance industry should be supervised by the insurance commissioners of the various states.

This GAO report will be perused by various legislative bodies. It should, therefore, be reviewed by health care providers, for without our input, the result may be change rather than progress.

This report is available from:
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Walter S. Feldman, M.D., J.D., FCLM
6500 Racquet Wood Court
Charlotte 28226

On care of the elderly in Great Britain

To the Editor:

I have just returned from a trip to Great Britain to see how those folk take care of their elderly (they proportionately have more of these folks than we do, and might give us some ideas for the future). It was heartening to see the extensive out-of-hospital community supports which are in place which greatly exceed what we have, and which because of the National Health Service, are available to all — regardless of means.

It was less heartening to appreciate the tensions placed on the system by the political decision to "cut back" on health expenditures (which are so remarkably less than ours). This decision to "cut back" despite the fact that the hospitals are struggling still to become "up to date" has limited the amount of technology accessible to the physicians for their patients. The political pressures of special problems

(such as long waits in some areas for access to hip replacement surgery) has led to the application of the universal panacea — more money to buy more orthopedic work — but one gets the feeling this is a reaction — not an action. There is certainly an appreciable difference in the amount of technical work done in the medical care process especially in the hospital setting. The level of medical "care," however, more than offset this, and there was *no* difference in treatment of a patient because of age.

The "cut backs" are altering patterns of hospital care for everyone with reduced acute stay, etc. The broad community primary care system, however, provides a "safety net" for all. This we are sorely lacking.

There are problems in medicine everywhere.

James A. Bryan II, M.D.
University of North Carolina School of Medicine
Division of General Medicine and Clinical Epidemiology
Chapel Hill 27514

On insurance for the practice of occupational medicine

To the Editor:

After five years of malpractice insurance coverage by St. Paul's and a spotless record, I was notified by them that they would not renew my policy. They stated that this was based upon a nationwide decision to no longer provide coverage to physicians in the practice of occupational medicine. I, of course, was shocked. However, I now realize that I should not have been, in view of the previous behavior of this company in North Carolina and Florida.

Fortunately, I was able to obtain coverage from Medical Mutual of North Carolina. Their staff has spent considerable time and effort to meet my particular needs. Furthermore, I have direct access to their underwriters and did not have to rely upon everything being transmitted by letter through an agent, as was the case previously. For their peace of mind, North Carolina physicians would be well served to support and use this fine company which is really concerned about the welfare of physicians.

Harold R. Imbus, M.D., Sc.D.
Health & Hygiene, Inc.
4605-E Dundas Drive
Greensboro 27407

A comment on Dr. Gutman's article

To the Editor:

I write in response to the editorial, *Physicians and Providers,* by Dr. Robert A. Gutman in the September 1987 issue of the North Carolina Medical Journal (NCMJ 48:445). Dr. Gutman's stimulus for the piece was the use of the term "provider" as a self descriptor by an M.D. colleague. I can understand his negative reaction to the term. I too find it unattractive and cold.

If he had stopped there, I would have had no reason to respond, but he proceeds to construct a kind of straw man in which there are two kinds of practitioners: "providers" who are associated with society as a whole, well people, and enrolees in capitated health plans, and "physicians" who are associated with the "truly sick." The following amazing question, relating to the former group, follows: "Having spent most of his time caring for the herd of well people and their concerns, and their need for prophylaxis, for immunization, for education, for dietary counseling, for advice on exercise, is he now prepared to be also a physician — prepared either emotionally or educationally?"

I would submit that physicians have successfully straddled that line for centuries, and continue to do so. Dr. Gutman concedes that pediatricians have done so. The general internist and family physician have also done so with distinction. Caring for the "herd of well people" is the highest level of service that a *physician* can provide, and I hope that none will be fooled into thinking that Dr. Gutman's straw man is real!

E. Harvey Estes, Jr, M.D.
Chief, Division of Family Medicine
Director, Duke-Watts Family Medicine Program
P.O. Box 3886
Durham 27710

The long arm of the Editor

To the Editor:

I must tell you about a dream that I had in Scotland: I have already told Ms. Ferejohn about this. During August Mrs. Blythe and I were on vacation in Morar, Scotland, a remote village in Western Scotland. I was having a wonderful time. On the night of August 10th, I had the following dream:

The telephone rings: a serious Steadian voice belonging to Dr. Stead says, "Bill, I need some manuscrupts for Learning Experiences from UNC. Why haven't you sent me any?" Blythe — "Dr. Stead I have sent several over to Ms. Ferejohn — perhaps you need to speak to her." Stead — "It was our impression that these were not submitted as manuscripts for Learning Experiences from UNC." Blythe — "Well gosh they were sent for that reason." Stead — "Bill, I think you better get busy and send me some more manuscripts."

I awoke in a cold sweat and was delighted to realize that I had sent several manuscripts for "Learning Experiences from UNC" and that in fact I was in Scotland and having a wonderful time. The long arm of Eugene Stead is perhaps longer than you realize.

With highest personal regards.

William B. Blythe, M.D.
Professor of Medicine
University of North Carolina School of Medicine
Old Clinic Building 226 H
Chapel Hill 27514

On "Should homeopathy be reconsidered?" (Crellin JK. NCMJ 1987;48:447-50)

To the Editor:

How about leeches, moxibustion, and cupping? Get real.

William B. Hunt, M.D.
P.O. Box 2157
New Bern 28560

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In Memoriam

Donald Lewis Croutcher, M.D.

Don Croutcher was born in Berea, Kentucky on June 11, 1939. He attended Berea College. He received his medical school education at the University of Kentucky in 1966 and served a Mixed Internship at Baptist Memorial Hospital in Memphis, Tennessee from 1966-1967. He began his Radiology Residency at the University of West Virginia 1967-1969, followed by further training at the Ochsner Clinic in New Orleans in 1971-1972. In the interim he served in the United States Air force from 1969-1971.

Don became Certified by the American Board of Radiology and Diagnostic Radiology in 1972 and was Certified by the American Board of Nuclear Medicine in 1975. He practiced in a group practice in Dothan, Alabama from 1972 to 1976 where he established and headed a very active Nuclear Medicine Department. In 1976 he moved to Clinton, North Carolina, where he practiced Radiology at Sampson County Memorial Hospital. He established and headed the Nuclear Medicine Division of Radiology while at Sampson Memorial Hospital, and he was active in the Medical Staff, serving as Medical Staff President and on numerous committees as well. He also served as Chairman of the Department of Radiology for a number of years. He was a member of the Board of Directors of PSRO of Eastern North Carolina.

Publications included "Carotid Artery Injury Produced by Blunt Neck Trauma" in the Southern Medical Journal: Volume 68, March, 1975. He also was a member of the Royal Medical Society in England, and he attended a Nuclear Medicine Symposium in London sponsored at the Royal Medical Society.

He died on June 4, 1987.

John L. Rouse, III, M.D.
Secretary
Sampson County Medical Society

Caroline Hollingsworth Callison, M.D., M.P.H.

Caroline Callison was born in Charleston, South Carolina, August 20, 1914. Her undergraduate work was at Coker College where she received a B.S. Degree in 1936. She graduated from Medical College of South Carolina with an M.D. Degree in 1939, and received her Masters Degree in Public Health in 1947 from the University of South Carolia at Columbia. She served an internship at Roper Hospital. Dr. Callison was a health officer in Alabama, South Carolina, and Maryland for approximately 20 years. Finally in 1961 she came to North Carolina and spent her final 16 years as a health director in Sampson and Bladen Counties.

Her interests included fishing, and she played an active role in the Episcopal Church in Clinton. She developed a multiphasic clinic while Director of Sampson County Health Department. She served as President of the North Carolina Academy of Preventive Medicine and Public Health in 1968-1969. In 1972-1973 she was President of the North Carolina Conference of Health Directors.

She died on June 17, 1986.

John L. Rouse, III, M.D.
Secretary
Sampson County Medical Society

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November 13
Pediatric Rehabilitation
Place: Greenville
Credit: 6 to 7 hours Category 1 AMA
Info: Mary C. Valand, MSW, ACSW, Office of CME, ECU, P.O. Box 7224, Greenville 27835-7224. 919/551-5200

December 1
1987 Series — Duke Tuesday
Place: Durham
Credit: 5 hours Category 1 AMA
Info: Cindi Easterling, Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878

December 5
Special Ophthalmology Grand Rounds
Place: Durham
Credit: 3 hours Category 1 AMA
Info: Cindi Easterling, Office of CME, Box 3108 DUMC, Durham 27710, 919/684-6878

December 5
University of North Carolina
Ophthalmology Resident's Day
Place: Chapel Hill
Credit: 6 hours Category 1 AMA
Fee: none
Info: Baird S. Grimson, M.D., Dept. of Ophthalmology, 617 Clinical Sciences Bldg. 229H, University of North Carolina at Chapel Hill, Chapel Hill 27514

December 13-16
Small Group and Lecture Skills
Place: Rougemont
Credit: 20 hours Category 1 AMA, AAFP
Info: Cindi Easterling, Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878

January 11-15
Diagnostic Ultrasound (physicians and non-physicians)
Place: Winston-Salem
Credit: 7 hours/day Category I AMA
Info: Registrar, Ultrasound Center, Bowman Gray School of Medicine, 300 S. Hawthorne Rd., Winston-Salem 27103. 919/748-4505

January 18-22
Diagnostic Ultrasound
(See January 11-15 for information)

January 24-27
Skills for Curriculum Design and Negotiation
Place: Rougemont
Credit: 20 hours Category 1 AMA
Info: Cindi Easterling. Office of CME, Box 3108 DUMC, Durham 27710. 919/684-6878

January 25-29
Diagnostic Ultrasound
(See January 11-15 for information)

January 29
Neurology for the Primary Care Practitioner: Stroke
Place: Greenville
Credit: 6 to 7 hours Category I AMA
Info: Mary C. Valand, MSW, ACSW, Office of CME, ECU, P.O. Box 7224, Greenville 27835-7224. 919/551-5200

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Preventian at hypakalemia requires particular attentian in patients receiving digitalis and diuretics far cangestive heart failure, hepatic cirrhasis and ascites, states af aldasterane excess with narmal renal function, patassium-lasing nephrapathy, certain diarrheal states, ar ather states where hypakalemia is thaught ta represent particular added risk ta the patients.
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Hyperuricemia may occur. Reversible elevatians at the BUN and creatinine may accur, especially with dehydratian and in patients with renal insufficiency. Bumex may increase urinary calcium excretian.
Passibility at effect an glucase metabalism exists. Periadic determinatians at blaad sugar shauld be dane, particularly in patients with diabetes ar suspected latent diabeles.
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North Carolina Medical Journal

For Doctors and their Patients

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For Doctors and their Patients

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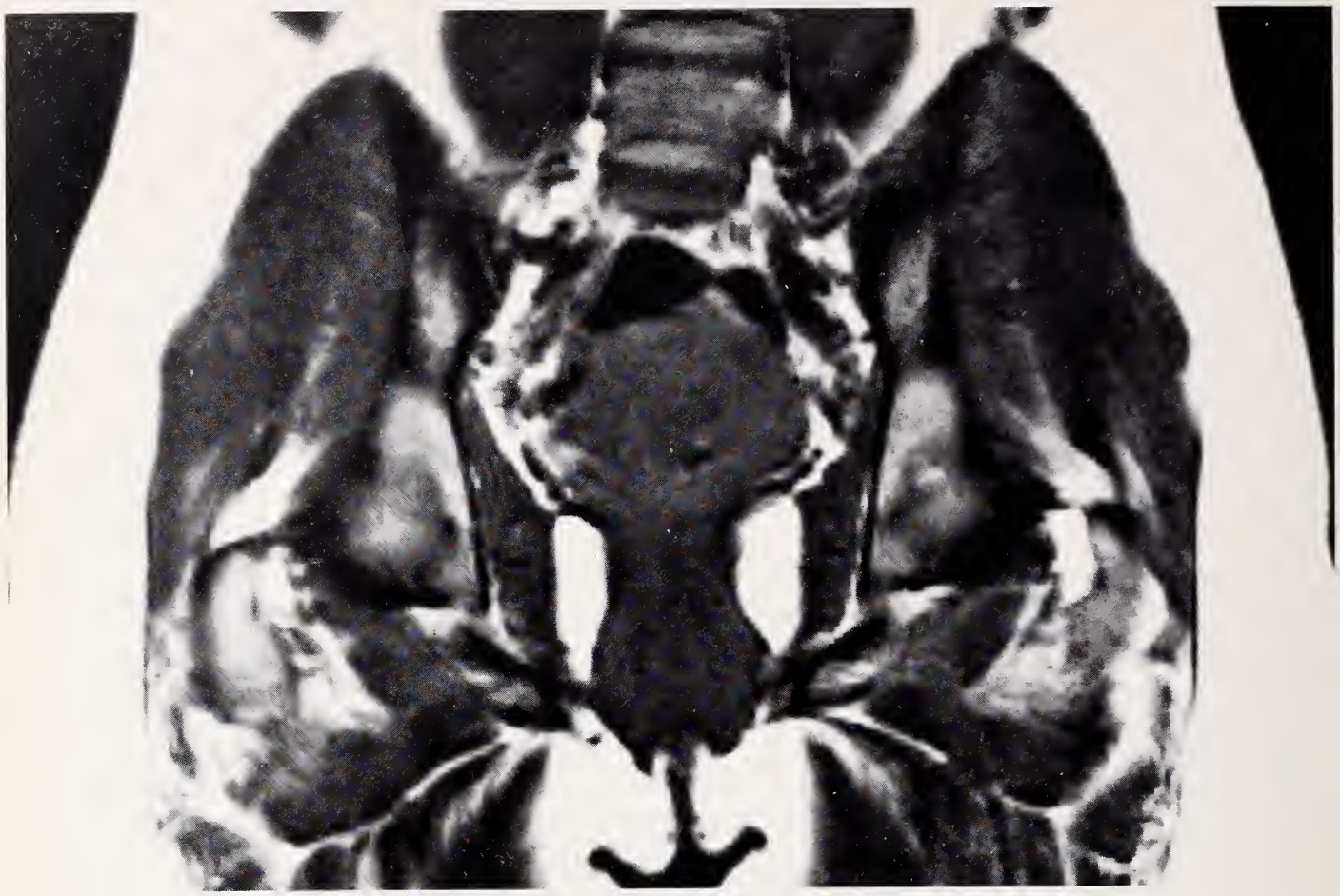
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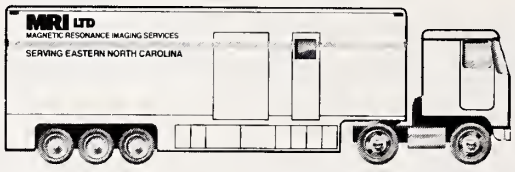
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North Carolina Medical Journal

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How many meals do good doctors miss? How many special family occasions do they show up late for?

The sacrifices are great. But the rewards are great too. Looking into the eyes of a worried mother and telling her that her child is going to be fine. Helping a heart attack victim put his life back together again.

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PERSONAL CARE PLAN

Of North Carolina

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Before prescribing, see complete prescribing information in SK&F CO. literature or *PDR*. The following is a brief summary.

WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: **Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired.** If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of triamterene and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Angiotensin-converting enzyme (ACE) inhibitors can elevate serum potassium; use with caution with 'Dyazide'. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function. Thiazides may add to or potentiate the action of other antihypertensive drugs. Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied as a red and white capsule, in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

BRS-DZ:L42

In Hypertension*... When You Need to Conserve K^+

Remember the Unique Red and White Capsule: Your Assurance of SK&F Quality

Serum K^+ and BUN should be checked periodically (see Warnings and Precautions).



Potassium-Sparing DYAZIDE®

25 mg Hydrochlorothiazide/**50 mg** Triamterene/SKF

Over 20 Years of Confidence

The unique red and white Dyazide® capsule: Your assurance of SK&F quality.



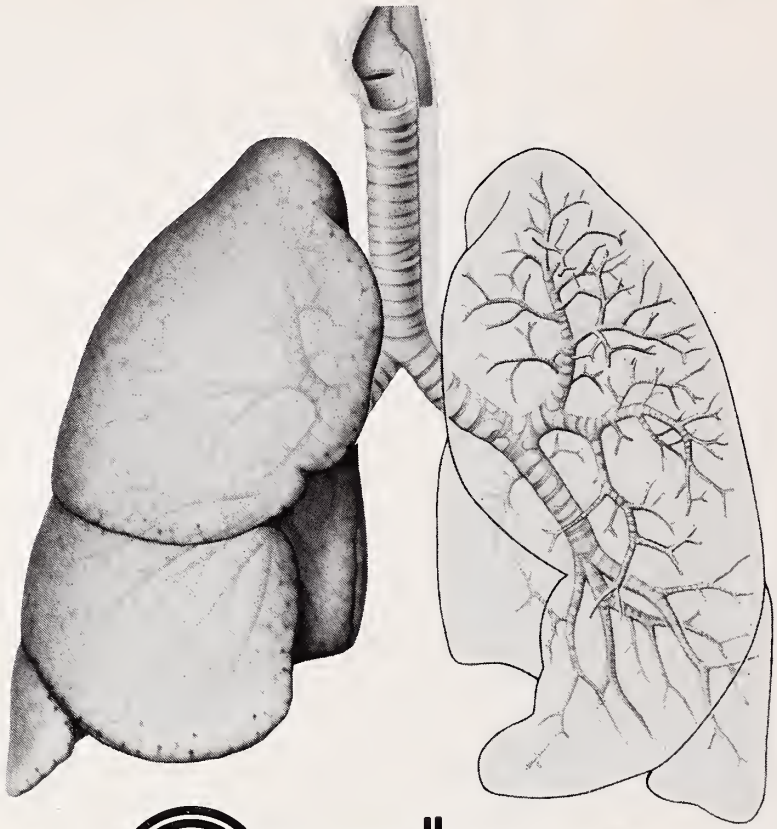
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Consider the causative organisms...



Ceclor®
cefaclor

250-mg Pulvules® t.i.d. offers effectiveness against the major causes of bacterial bronchitis

Haemophilus influenzae and *Streptococcus pneumoniae*
(ampicillin-susceptible and ampicillin-resistant)

Note: Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

Ceclor® (cefaclor)

Summary. Consult the package literature for prescribing information.

Indication: Lower respiratory infections, including pneumonia, caused by *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Streptococcus pyogenes* (group A β-hemolytic streptococci).

Contraindication:
Known allergy to cephalosporins.

Warnings:
CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:
- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)
Therapy-related adverse reactions are uncommon. Those reported include:
- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, and serum-sickness-like reactions that have included erythema multiforme [rarely, Stevens-Johnson syndrome] or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever): 1.5%; usually subside within a few days after cessation of therapy. Serum-sickness-like reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%; and, rarely, thrombocytopenia.

Abnormalities in laboratory results of uncertain etiology
- Slight elevations in hepatic enzymes.
- Transient fluctuations in leukocyte count (especially in infants and children).
- Abnormal urinalysis; elevations in BUN or serum creatinine.
- Positive direct Coombs' test.
- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest® tablets but not with Tes-Tape® (glucose enzymatic test strip, Lilly). [061787L]

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.

Eli Lilly Industries, Inc
Carolina, Puerto Rico 00630



ZOVIRAX®
(acyclovir)
CAPSULES

Prevent genital herpes recurrences month after month with daily therapy.

(In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.)

Please see last page of this advertisement for brief summary of prescribing information.

ZOVIRAX®
(acyclovir)
CAPSULES

Help free your patients from recurrences.

Daily therapy

Coping with genital herpes is rarely easy. For some, the worst part is the pain and discomfort of frequent attacks—month after month, year after year. For others, the emotional burden presents a more difficult problem, leading to social isolation, anxiety, and diminished self-esteem.

Prevent or reduce recurrences

Although your patients have to live with herpes, they shouldn't have to suffer. Daily therapy with ZOVIRAX CAPSULES can help free them from the cycle of recurrent genital herpes. For many, one capsule three times a day can suppress recurrences completely while on therapy.

Generally well tolerated

Daily therapy with ZOVIRAX CAPSULES is generally well tolerated. The most frequent adverse reactions reported during clinical trials were headache, diarrhea, nausea/vomiting, vertigo, and arthralgia.

The physical and emotional difficulties posed by genital herpes are unique for each patient. The frequency and severity of recurrent episodes, as well as the emotional impact of the disease, should be considered when selecting daily therapy with ZOVIRAX CAPSULES.

Please see brief summary of prescribing information on next page.



Prevent recurrences month after month*

ZOVIRAX® (acyclovir) CAPSULES

Brief Summary

INDICATIONS AND USAGE: Zovirax Capsules are indicated for the treatment of initial episodes and the management of recurrent episodes of genital herpes in certain patients.

The severity of disease is variable depending upon the immune status of the patient, the frequency and duration of episodes, and the degree of cutaneous or systemic involvement. These factors should determine patient management, which may include symptomatic support and counseling only, or the institution of specific therapy. The physical, emotional and psycho-social difficulties posed by herpes infections as well as the degree of debilitation, particularly in immunocompromised patients, are unique for each patient, and the physician should determine therapeutic alternatives based on his or her understanding of the individual patient's needs. Thus Zovirax Capsules are not appropriate in treating all genital herpes infections. The following guidelines may be useful in weighing the benefit/risk considerations in specific disease categories:

First Episodes (primary and nonprimary infections — commonly known as initial genital herpes):

Double-blind, placebo-controlled studies have demonstrated that orally administered Zovirax significantly reduced the duration of acute infection (detection of virus in lesions by tissue culture) and lesion healing. The duration of pain and new lesion formation was decreased in some patient groups. The promptness of initiation of therapy and/or the patient's prior exposure to Herpes simplex virus may influence the degree of benefit from therapy. Patients with mild disease may derive less benefit than those with more severe episodes. In patients with extremely severe episodes, in which prostration, central nervous system involvement, urinary retention or inability to take oral medication require hospitalization and more aggressive management, therapy may be best initiated with intravenous Zovirax.

Recurrent Episodes:

Double-blind, placebo-controlled studies in patients with frequent recurrences (6 or more episodes per year) have shown that Zovirax Capsules given for 4 to 6 months prevented or reduced the frequency and/or severity of recurrences in greater than 95% of patients. Clinical recurrences were prevented in 40 to 75% of patients. Some patients experienced increased severity of the first episode following cessation of therapy; the severity of subsequent episodes and the effect on the natural history of the disease are still under study.

The safety and efficacy of orally administered acyclovir in the suppression of frequent episodes of genital herpes have been established only for up to 6 months. Chronic suppressive therapy is most appropriate when, in the judgement of the physician, the benefits of such a regimen outweigh known or potential adverse effects. In general, Zovirax Capsules should not be used for the suppression of recurrent disease in mildly affected patients. Unanswered questions concerning the human relevance of *in vitro* mutagenicity studies and reproductive toxicity studies in animals given very high doses of acyclovir for short periods (see Carcinogenesis, Mutagenesis, Impairment of Fertility) should be borne in mind when designing long-term management for individual patients. Discussion of these issues with patients will provide them the opportunity to weigh the potential for toxicity against the severity of their disease. Thus, this regimen should be considered only for appropriate patients and only for six months until the results of ongoing studies allow a more precise evaluation of the benefit/risk assessment of prolonged therapy.

Limited studies have shown that there are certain patients for whom intermittent short-term treatment of recurrent episodes is effective. This approach may be more appropriate than a suppressive regimen in patients with infrequent recurrences.

Immunocompromised patients with recurrent herpes infections can be treated with either intermittent or chronic suppressive therapy. Clinically significant resistance, although rare, is more likely to be seen with prolonged or repeated therapy in severely immunocompromised patients with active lesions.

CONTRAINDICATIONS: Zovirax Capsules are contraindicated for patients who develop hypersensitivity or intolerance to the components of the formulation.

WARNINGS: Zovirax Capsules are intended for oral ingestion only.

PRECAUTIONS: General: Zovirax has caused decreased spermatogenesis at high doses in some animals and mutagenesis in some acute studies at high concentrations of drug (see PRECAUTIONS — Carcinogenesis, Mutagenesis, Impairment of Fertility). The recommended dosage and length of treatment should not be exceeded (see DOSAGE AND ADMINISTRATION).

Exposure of Herpes simplex isolates to acyclovir *in vitro* can lead to the emergence of less sensitive viruses. The possibility of the appearance of less sensitive viruses in man must be borne in mind when treating patients. The relationship between the *in vitro* sensitivity of Herpes simplex virus to acyclovir and clinical response to therapy has yet to be established.

Because of the possibility that less sensitive virus may be selected in patients who are receiving acyclovir, all patients should be advised to take particular care to avoid potential transmission of virus if active lesions are present while they are on therapy. In severely immunocompromised patients, the physician should be aware that prolonged or repeated courses of acyclovir may result in selection of resistant viruses which may not fully respond to continued acyclovir therapy.

Drug Interactions: Co-administration of probenecid with intravenous acyclovir has been shown to increase the mean half-life and the area under the concentration-time curve. Urinary excretion and renal clearance were correspondingly reduced.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Acyclovir was tested in lifetime bioassays in rats and mice at single daily doses of 50, 150 and 450 mg/kg given by gavage. There was no statistically significant difference in the incidence of tumors between treated and control animals, nor did acyclovir shorten the latency of tumors. In 2 *in vitro* cell transformation assays, used to provide preliminary assessment of potential oncogenicity in advance of these more definitive life-time bioassays in rodents, conflicting results were obtained. Acyclovir was positive at the highest dose used in one system and the resulting morphologically transformed cells formed tumors when inoculated into immunosuppressed, syngeneic, weanling mice. Acyclovir was negative in another transformation system considered less sensitive.

In acute studies, there was an increase, not statistically significant, in the incidence of chromosomal damage at maximum tolerated parenteral doses of 100 mg/kg acyclovir in rats but not Chinese hamsters; higher doses of 500 and 1000 mg/kg were clastogenic in Chinese hamsters. In addition, no activity was found after 5 days dosing in a dominant lethal study in mice. In 6 of 11 microbial and mammalian cell assays, no evidence of mutagenicity was observed. At 3 loci in a Chinese hamster ovary cell line, the results were inconclusive. In 2 mammalian cell assays (human lymphocytes and L5178Y mouse lymphoma cells *in vitro*), positive responses for mutagenicity and chromosomal damage occurred, but only at concentrations at least 400 times the acyclovir plasma levels achieved in man.

Acyclovir has not been shown to impair fertility or reproduction in mice (450 mg/kg/day, p.o.) or in rats (25 mg/kg/day, s.c.). At 50 mg/kg/day s.c. in the rat, there was a statistically significant increase in post-implantation loss, but no concomitant decrease in litter size. In female rabbits treated subcutaneously with acyclovir subsequent to mating, there was a statistically significant decrease in implantation efficiency but no concomitant decrease in litter size at a dose of 50 mg/kg/day. No effect upon implantation efficiency was observed when the same dose was administered intravenously. In a rat peri- and postnatal study at 50 mg/kg/day s.c., there was a statistically significant decrease in the group mean numbers of corpora lutea, total implantation sites and live fetuses in the F_1 generation. Although not statistically significant, there was also a dose related decrease in group mean numbers of live fetuses and implantation sites at 12.5 mg/kg/day and 25 mg/kg/day, s.c. The intravenous administration of 100 mg/kg/day, a dose known to cause obstructive nephropathy in rabbits, caused a significant increase in fetal resorptions and a corresponding decrease in litter size. However, at a maximum tolerated intravenous dose of 50 mg/kg/day in rabbits, there were no drug-related reproductive effects.

Intraperitoneal doses of 320 or 80 mg/kg/day acyclovir given to rats for 1 and 6 months, respectively, caused testicular atrophy. Testicular atrophy was persistent through the 4-week postdose recovery phase after 320 mg/kg/day; some evidence of recovery of sperm production was evident 30 days postdose. Intravenous doses of 100 and 200 mg/kg/day acyclovir given to dogs for 31 days caused aspermatogenesis. Testicles were normal in dogs given 50 mg/kg/day, i.v. for one month.

Pregnancy: ***Teratogenic Effects:*** Pregnancy Category C. Acyclovir was not teratogenic in the mouse (450 mg/kg/day, p.o.), rat (50 mg/kg/day, s.c.) or rabbit (50 mg/kg/day, s.c. and i.v.). There are no adequate and well-controlled studies in pregnant women. Acyclovir should not be used during pregnancy unless the potential benefit justifies the potential risk to the fetus. Although acyclovir was not teratogenic in animal studies, the drug's potential for causing chromosome breaks at high concentration should be taken into consideration in making this determination.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when Zovirax is administered to a nursing woman. In nursing mothers, consideration should be given to not using acyclovir treatment or discontinuing breastfeeding.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS — Short-Term Administration: The most frequent adverse reactions reported during clinical trials were nausea and/or vomiting in 8 of 298 patient treatments (2.7%) and headache in 2 of 298 (0.6%). Less frequent adverse reactions, each of which occurred in 1 of 298 patient treatments (0.3%), included diarrhea, dizziness, anorexia, fatigue, edema, skin rash, leg pain, inguinal adenopathy, medication taste and sore throat.

Long-Term Administration: The most frequent adverse reactions reported in studies of daily therapy for 3 to 6 months were headache in 33 of 251 patients (13.1%), diarrhea in 22 of 251 (8.8%), nausea and/or vomiting in 20 of 251 (8.0%), vertigo in 9 of 251 (3.6%), and arthralgia in 9 of 251 (3.6%). Less frequent adverse reactions, each of which occurred in less than 3% of the 251 patients (see number of patients in parentheses), included skin rash (7), insomnia (4), fatigue (7), fever (4), palpitations (1), sore throat (2), superficial thrombophlebitis (1), muscle cramps (2), pars planitis (1), menstrual abnormality (4), acne (3), lymphadenopathy (2), irritability (1), accelerated hair loss (1), and depression (1).

DOSAGE AND ADMINISTRATION: Treatment of initial genital herpes: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 10 days (total 50 capsules).

Chronic suppressive therapy for recurrent disease: One 200 mg capsule 3 times daily for up to 6 months. Some patients may require more drug, up to one 200 mg capsule 5 times daily for up to 6 months.

Intermittent Therapy: One 200 mg capsule every 4 hours, while awake, for a total of 5 capsules daily for 5 days (total 25 capsules). Therapy should be initiated at the earliest sign or symptom (prodrome) of recurrence.

Patients With Acute or Chronic Renal Impairment: One 200 mg capsule every 12 hours is recommended for patients with creatinine clearance $\leq$10 ml/min/1.73/m^2.

HOW SUPPLIED: Zovirax Capsules (blue, opaque) containing 200 mg acyclovir and printed with "Wellcome ZOVIRAX 200" - Bottles of 100 (NDC-0081-0991-55) and unit dose pack of 100 (NDC-0081-0991-56).

Store at 15°-30°C (59°-86°F) and protect from light.

*In controlled studies, recurrences were totally prevented for 4 to 6 months in up to 75% of patients.

Burroughs Wellcome Co., Research Triangle Park, North Carolina 27709



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Real estate.
Now more than ever.

Yes, the Tax Reform Act created changes in the amount of deductions associated with Real Estate. But it has also caused a significant drop in new construction activity. As a result, there has been more demand for existing space, leading to higher rents and increased values. Nowhere has this effect been more prevalent than in the Coastal Resort Areas.

Additionally, the events on Wall Street during October accentuate the need for solid investment strategies. . . .

Real Estate provides tax benefits, capital appreciation, and the peace of mind you need in these changing markets.

REAL ESTATE

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This custom-built oceanfront home was made for pure comfort and shows quality throughout. Constructed by a builder for his family, this home has a terrific sense of detail — from the ceramic baths, marble hearth, large Master Suite with Jacuzzi, and wetbar to the 1350 sq. ft. of decking. 4 bedrooms, 3 baths and upstairs lounge.

1003 Emerald Drive

Open and airy describes this home — and it's waiting for you and your family. Built with an eye for the rental market, this home incorporates many features one would find in a permanent residence. This third row home has excellent ocean and sound views, slate foyer and hearth, fireplace and over 1600 sq. ft. of decking. May be purchased furnished — 3 bedrooms, 2½ baths.

102 Sandbur Drive

Make a splash at the beach in style! This contemporary, spacious ± 1500 ft²/side *duplex* will appeal as both year 'round home or rental property. This flexible floor plan sports 3 bedrooms and 2½ baths per side. Private decks, exterior showers, and ocean views are only a few of the amenities. Both sides are furnished for immediate occupancy.

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Pneumocystis Carinii in the AIDS Patient

Nancy G. Henshaw, M.P.H., Ph.D.

Pneumocystis carinii is the most important opportunistic infection occurring in patients with AIDS.[1] In fact, pneumocystosis is the index diagnosis for one-half of all AIDS patients, and occurs in 80-85% of patients during the course of the disease.[2] *P. carinii* is the most common organism found in the lungs of AIDS patients, accounting for about 90% of all lung infections.[3] Other lung pathogens are present simultaneously in about one-third of cases.[3]

P. carinii is thought to be a ubiquitous saprophyte in nature, and of worldwide distribution. It maintains itself in the immunocompetent populations but causes clinical disease only in the immunosuppressed. The organism is a unicellular eukaryote and classified most often with the protozoa. It has two major forms: a vegetative form, the trophozoite; and a thick walled form, the cyst.

Trophozoites are very irregular in shape with numerous lobes and tubular extensions or filopodia (figure 1). These forms are 1-5um in size, containing one nucleus with a single or double membrane which is often poorly defined, a nucleolus, a few mitochondria with poorly developed lamellar cristae, loose endoplasmic reticulum, free ribosomes, glycogen granules, and vacuolar spaces limited by thin fragments of membrane.

The cysts measure 5-7um in diameter and have a thick trilayered cell wall (figure 1). There is a maximum of eight intracystic bodies formed inside a cyst. Each intracystic body has a nucleus, mitochondrion, and a few lamellae of rough endoplasmic reticulum.

Campbell[4] proposed the most widely accepted life cycle for *P. carinii*. The trophozoite may undergo several replications by binary fission before developing a thick trilayered cell wall. Such forms, called precysts, develop into cysts. The intracystic bodies contained in the cyst erupt from the cyst wall and become trophozoites. A sexual cycle has not been proven for *P. carinii*, although one group of investigators has shown evidence for meiosis and probable sporogony in cysts.[5] It is generally thought that the cyst is the most likely source of infection, and the disease is transmitted by the respiratory route.

The organisms reside in the lung alveoli, adhere to Type I alveolar epithelial cells,[6] and cause a diffuse alveolar infiltrate (figure 2a, next page). They are not found adherent to the airway epithelium, including the epithelium of the terminal bronchioles, nor are they intracellular. In severe infections, such as those seen in AIDS patients, *P. carinii* organisms line the alveolar epithelial cells and prevent gaseous exchange (figure 1). In terminal stages of infection, there is desquamation of alveolar cells. Large numbers of organisms, sluffed alveolar cells, proteinaceous fluid, and foamy macrophages fill the alveolar air spaces.



Figure 1. Electron micrograph demonstrating *Pneumocystis carinii* organisms adherent to the alveolar Type I epithelial cell. The trophozoites (T) are irregular in shape and interdigitate with the surface of the host epithelial cell (arrows). The cyst (C) has a thick cell wall and three intracystic bodies (ICB) visible. (x22000)

For a definitive diagnosis, *P. carinii* must be demonstrated in lung tissue or alveolar fluid derived from the lungs. No serological test at present is both sensitive and specific enough to make the diagnosis of *P. carinii*. Obtaining an adequate specimen for diagnosis is often hazardous to the patient, since virtually all patients with suspected *P. carinii* pneumonitis are gravely ill. The exact method used depends largely upon the experience and expertise of the specialists at each medical center as well as the age and medical condition of the patients involved. The standard procedure is open lung biopsy; however, this procedure is being replaced

From the Department of Pediatrics-Infectious Disease, Duke University Medical Center, P.O. Box 2951, Durham 27710.

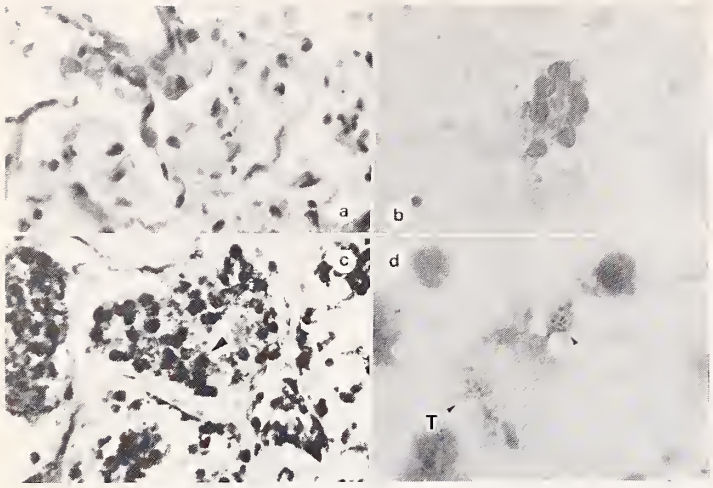


Figure 2. a) Hematoxylin- and eosin-stained lung section infected with *Pneumocystis carinii* showing alveolar infiltrates of macrophages, cellular debris, and proteinaceous fluid. (x2500)

b) Toluidine Blue O stained alveolar lavage fluid. Cysts (arrow) stain purple; host tissue stains blue. (x4500)

c) Methenamine silver stained lung section infected with *Pneumocystis carinii.* Cysts (arrow) are stained black; lung tissue stains green. (x2500)

d) Giemsa stained lung biopsy touch preparation. The cyst (arrow) with eight intracystic bodies visible is diagnostic. Trophozoites (T) are also visible. (x4500).

in many medical centers by transbronchial biopsy or bronchoalveolar lavage.[7]

Diagnosis of pneumocystosis is more readily made in patients with AIDS than in patients with immunosuppression due to other causes because of the larger number of organisms that are present.[1] Organisms are so abundant in patients with AIDS that induced sputum can often be used to make the diagnosis. Induced sputum yielded organisms in 5-10% of non-AIDS patients with *P. carinii* and in 61% of AIDS patients with *P. carinii*.[8,9]

The successful diagnosis of *P. carinii* depends on two factors: the collection of the proper sample; and an appropriate histochemical stain to distinguish *P. carinii* from cellular material.[7] For rapid screening, a special cell wall stain is usually employed to visualize the cyst cell wall, such as Toluidine Blue O (figure 2b), or methenamine silver (figure 2c). These stains also stain fungal cell walls; therefore, knowledge of the appearance and morphology of *P. carinii* on these stains is necessary. For confirmation of *P. carinii*, the Giemsa stain is customarily used (figure 2d). All the stages of *P. carinii* are visualized, trophozoite and cyst. The cyst with eight intracystic bodies is diagnostic for *P. carinii*.

For the treatment of pneumocystosis, pentamindine isethionate and trimethoprim-sulfamethoxazole (TMP-SMZ) have equivalent efficacies.[10] In human studies, TMP-SMZ has been shown to be generally less toxic than pentamindine,[11] therefore, since the late 1970s TMP-SMZ has been employed as the treatment of choice for pneumocystis. However, AIDS patients have a higher incidence of toxic reactions to TMP-SMZ than other immunosuppressed patients. Most AIDS patients are administered TMP-SMZ first, with pentamindine being reserved for patients who do not respond to therapy either because of severe adverse reactions or because of progressive disease. Alternate drugs for treatment for *P. carinii* are needed, however. On follow-up bronchoscopy, persistent *P. carinii* has been observed as long as three weeks following treatment in two-thirds of AIDS patients.[10] This figure is much higher than that reported for other immunosuppressed populations.[10] Hydroxystilbamidine, TMP-dapsone (a sulfone), and difluoromethylornithine are some of the drugs that are currently under investigation for treatment of *P. carinii*.

In summary, with the advent of AIDS, *Pneumocystis carinii* has become an important cause of pneumonia. Such a disease manifestation is evidence of severe immunodeficiency. Proper diagnosis requires a high index of suspicion on the part of the physician, an appropriate specimen, and laboratory expertise. Currently, much ongoing research is addressing the areas of rapid diagnosis and development of better therapy and prophylaxis. ■

References

1 Mills J. *Pneumocystis carinii* and *Toxoplasma gondii* infections in patients with AIDS. Rev Infect Dis 1986;8:1001-11.

2 Centers for Disease Control. Acquired immunodeficiency syndrome (AIDS) weekly surveillance report — United States. Department of Health and Human Services, December 3, 1984.

3 Murray JF, Felton CP, Garay S, et al. Pulmonary complications of the acquired immunodeficiency syndrome: report of the National Heart, Lung, and Blood Institute Workshop. N Engl J Med 1984;310:1682-8.

4 Campbell WG. Ultrastructure of *Pneumocystis carinii* in human lung. Arch Pathol 1972;93:312-24.

5 Matsumoto Y, Yoshida Y. Sporogony in *Pneumocystis carinii*: synaptonemal complexes and meiotic nuclear divisions observed in precysts. J Protozool 1984;31:420-8.

6 Henshaw NG, Carson JL, Collier AM. Ultrastructural observations of *Pneumocystis carinii* attachment to rat lung. J Infect Dis 1985;151:181-6.

7 Leigh MW, Henshaw NG, Wood RE. Diagnosis of *Pneumocystis carinii* in pneumonia in pediatric patients using bronchoscopic bronchoalveolar lavage. Ped Infect Dis 1985;4:408-10.

8 Kim H-K, Hughes WT. Comparison of methods for identification of *Pneumocystis carinii* in pulmonary aspirates. Am J Clin Pathol 1973;60:162-6.

9 Bigby T, Margolskee D, Curtis J, et al. The usefulness of induced sputum in the diagnosis of *Pneumocystis carinii* pneumonia in patients with acquired immunodeficiency syndrome. Am Rev Respir Dis 1986;133:515-8.

10 Wharton BM, Coleman DL, Wofsy CB, et al. Prospective randomized trial of trimethoprim-sulfamethoxazole versus pentamindine for *Pneumocystis carinii* pneumonia in the acquired immunodeficiency syndrome. Ann Intern Med, 1986;105:37-44.

11 Hughes WT, Feldman S, Chaudharg SC, et al. Comparison of pentamindine isethionate and trimethoprim-sulfamethoxazole in the treatment of *Pneumocystis carinii* pneumonia. J Pediatr 1978;92:285-91.

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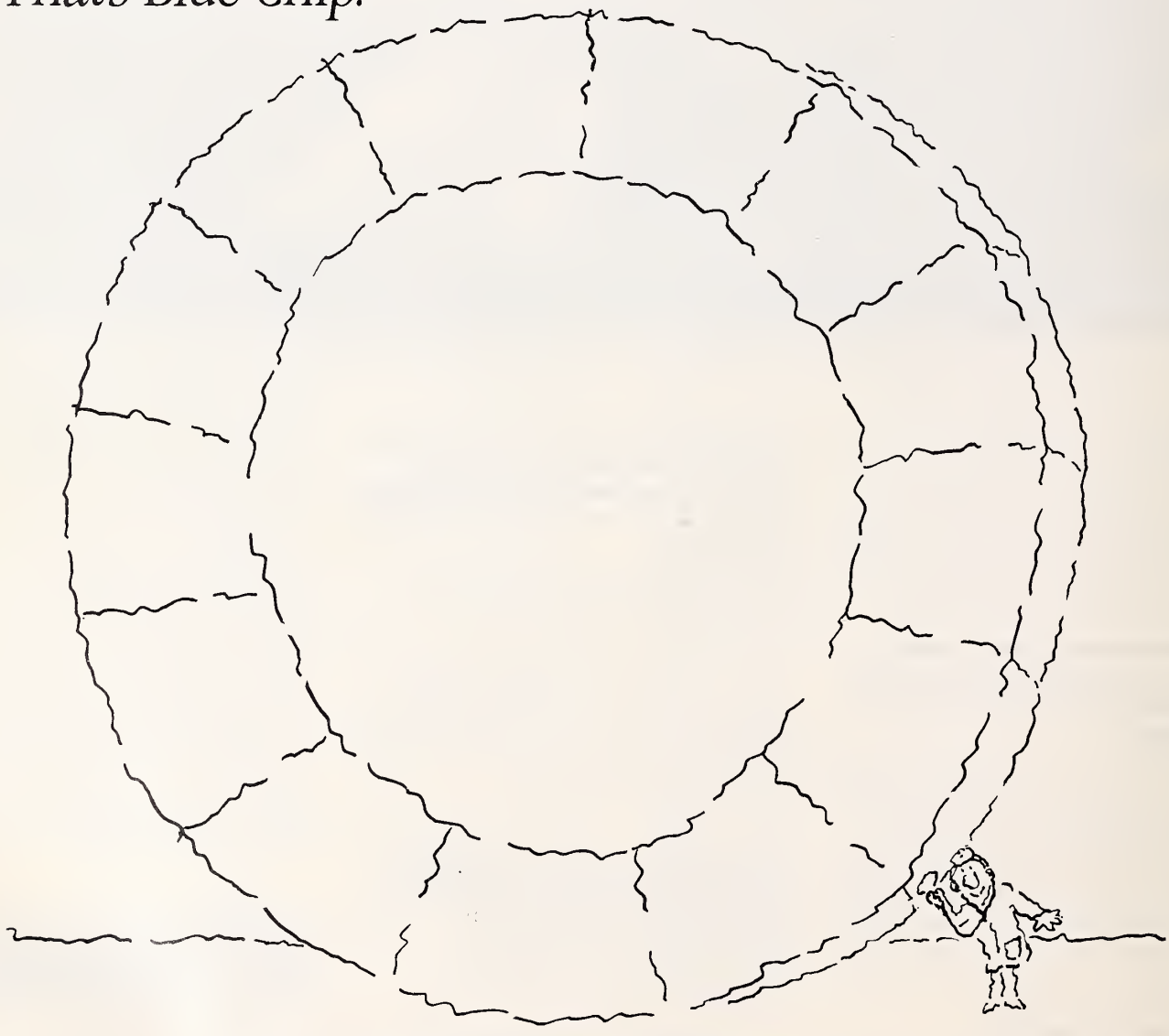
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SCIENTIFIC ARTICLE

Arsenic Poisoning and Seizures

Thomas L. Ortel, M.D., Ph.D., Camille L. Bedrosian, M.D., and David L. Simel, M.D.

A "diagnosis" may not always benefit a patient and may, at times, produce harm rather than good. An incorrect diagnosis that leads to incorrect treatment ignores the basic illness and introduces all the potential harmful effects from improper medications. We present a patient with a complex multi-system disorder; because each of his problems were approached separately, with special attention directed to his seizure disorder, the single diagnosis unifying many multiple symptoms was missed.

Our patient was a 72-year-old crop farmer who gradually developed personality changes, intermittent confusion, difficulties with memory, headaches, weight loss, and predominantly left-sided weakness. He sustained a possible tonic-clonic seizure in late 1985, but first went to a physician three months later following a second seizure. A computed tomogram (CT) of the head was normal, but an electroencephalogram (EEG) revealed irregular, sharp activity in the left anterior temporal area. He was only given digoxin for atrial fibrillation.

He did poorly and was re-admitted two months later for severe nausea and vomiting, dehydration, inability to stand, episodic staring spells, and tingling in his arms. The following tests were normal: 24-hr urine for vanillylmandelic acid, free catecholamines and metanephrines, thyroid function tests, cortrosyn stimulation test, serum protein electrophoresis, sedimentation rate, anti-nuclear antibodies, complete blood count, abdominal CT scan, 24-hr Holter monitor, and a resting multigated angiogram. A repeat EEG revealed epileptiform discharges involving both anterior temporal areas. CT scan of the cervical spine revealed cervical spondylosis. He was diagnosed as having temporal lobe seizures and was treated with tegretol.

His symptoms worsened six months later, when he developed recurrent nausea and vomiting, dizziness, chills, headache, and had new ST-T wave changes on his electrocardiogram. A myocardial infarction was ruled out by negative cardiac isoenzymes. He again underwent an extensive neurologic evaluation, including a normal head CT, normal cerebral arteriogram, and normal cerebrospinal fluid studies. EEG again revealed epileptiform discharges in the anterior temporal location, right more than left. The serum vitamin B_{12} and folate levels were normal. A 24-hr. urine study for porphyrins was reportedly positive, but a serum Δ-aminolevulinic acid level was "normal." Esophagogastroduodenoscopy revealed possible extrinsic compression of the gastric antrum. He was treated with tegretol, dilantin, and digoxin.

He was first evaluated at our hospital for his seizure disorder and progressive decline in late 1986. A repeat head CT was normal, and a repeat EEG revealed right-sided irregularities without ongoing seizure activity. A magnetic resonance image of the head was normal. A complete blood count revealed a hemoglobin of 10.6 gm/dl and a white count of 2600/mm^3 (49% neutrophils, 41% lymphocytes, 10% monocytes). The reticulocyte count was 6.1%, Coombs' test was negative, and a screen for paroxysmal nocturnal hemoglobinuria was normal. The serum ferritin was 181 ng/ml (normal, 31-294 ng/ml). His tegretol was discontinued because of presumed bone marrow toxicity.

His condition stabilized until two months later when he developed increased discoordination, confusion, and recurrent seizures. He returned to our hospital with a fever of 101°F in mild respiratory distress. He was thin and had bitemporal wasting, and the skin was diffusely hyperpigmented with hyperkeratotic changes involving the soles of the feet (see figure 1). He was completely oriented with an intact short-term memory, but he was confused concerning recent events. His strength was slightly decreased, the left side more than the right. Pinprick sensation and light touch were diminished over the distal arms and legs, left greater than right. His deep tendon reflexes were diminished diffusely. His hemoglobin had decreased to 7.1 gm/dl, and the white count was 2100/mm^3 with 68% neutrophils, 20% lymphocytes, and 12% monocytes; the peripheral blood film also revealed anisocytosis and basophilic stippling. The sodium was 141 mmol/L, potassium 3.9 mmol/L, chloride 111 mmol/L, and carbon dioxide 17 mmol/L.

The patient's blood and sputum were cultured, a lumbar puncture was performed, and he was started on methicillin

From the Department of Internal Medicine, Durham Veterans Administration Medical Center, and Duke University Medical Center, Durham 27710. Reprint requests: Thomas L. Ortel, M.D., Ph.D., Box 3422, Duke University Medical Center, Durham 27710.

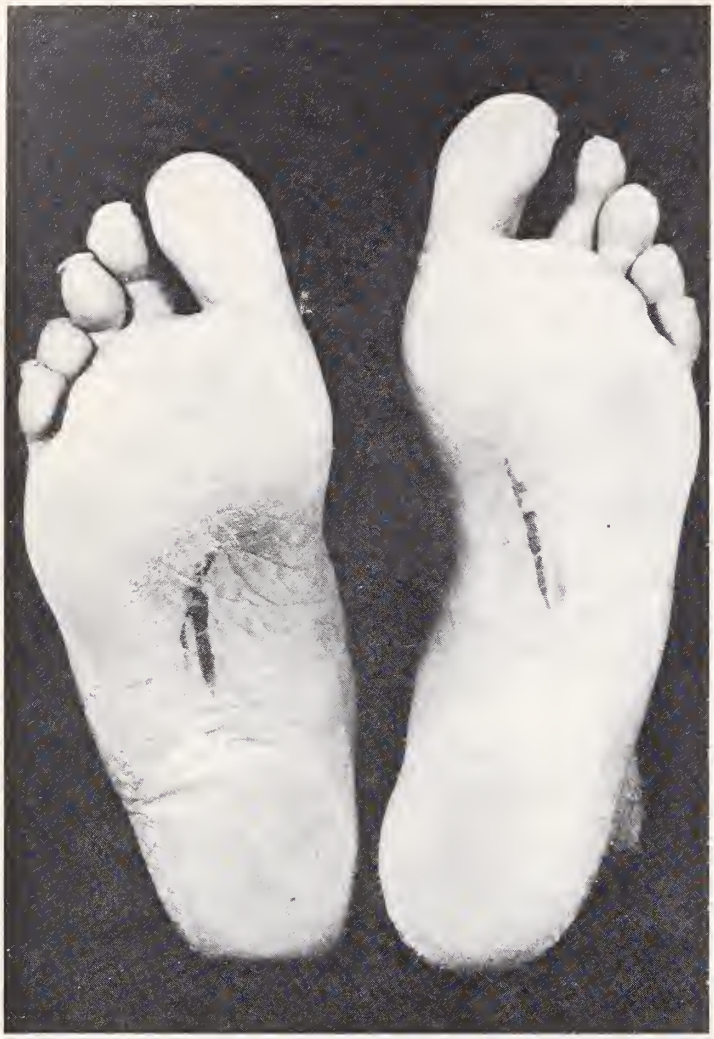


Figure 1. Hyperkeratotic changes on the soles of the patient's feet. The darker markings in the arches of his feet were present on admission, and neither he nor his wife knew their etiology.

and gentamicin. Although the blood, sputum, and cerebrospinal fluid cultures revealed no organisms, the patient clinically improved with intravenous antibiotics. Bone marrow aspiration revealed the marrow to be slightly hypocellular with occasional erythroid nuclear karyorrhexis, but myeloid:erythroid ratio, megakaryoctyes, and bone marrow iron staining were normal. An electromyogram revealed a moderately severe sensorimotor neuropathy with axonal and demyelinating changes in the upper and lower extremities. A cortrosyn stimulation test was again normal and a repeat 24-hour urine for porphyrins was negative.

A 24-hour urine sample was negative for arsenic, lead, and mercury; however, pubic hair and nail clippings analysis revealed the presence of arsenic at a level of 71.1 ug/gm of tissue (upper normal <10 ug/gm). He was begun on dimercaprol (British anti-Lewisite), 300 mg every four hours intramuscularly for two days, followed by 300 mg intramuscularly every 12 hours for an additional eight days of therapy. A repeat 24-hour urine arsenic assay was elevated (58 ug/L) two days after initiating chelation therapy. Penicillamine (25 mg/kg every six hours) was started after completing the course of dimercaprol.

Although many of his symptoms improved with therapy, he still has an occasional seizure, and the dysesthesias in his feet persist. The source of his arsenic intoxication is as yet unidentified, despite examination of his farm by the North Carolina Department of Pesticide Toxicology. The sheriff's department has been notified.

Discussion

Our patient presented with a complex multisystem disorder characterized by a chronic progressive decline punctuated by intermittent acute exacerbations. He was hospitalized on several occasions, and, despite extensive evaluation, the forest was missed as each tree was carefully examined. A malignancy was suspected but could not be proven, and the diagnosis of temporal lobe epilepsy could not explain all of his symptoms. Although arsenic intoxication was not suspected in our patient initially, a review of his case reveals that most of his symptoms, if not all, can be directly attributed to acute and chronic arsenic exposure.

Arsenic is a common environmental toxin that is present naturally in soil, water, and air.[1] Arsenic is also released into the environment from various anthropogenic sources, predominantly industrial and agricultural.[1] Chemically, arsenic resembles phosphorus, and arsenic anions can substitute for phosphate in various reactions. It can exist in three possible oxidation states (metalloid [0], trivalent [arsenite], and pentavalent [arsenate]), and it is found in both organic and inorganic forms. These forms vary in their potency, with arsenite being more toxic than arsenate, and the inorganic arsenicals more toxic than the organic.[1,2] In fact, certain organoarsenicals have been used as feed additives for poultry and other livestock to promote growth and weight gain.[2] Although the different states vary in their individual potencies, the mechanism of arsenic toxicity is similar for all, involving its ability to combine with thiol groups in the tissues.[3]

Arsenic has been implicated in human poisonings and deaths, both accidental and intentional, throughout recorded history. The "Staffordshire beer epidemic" of 1900 resulted from the use of arsenic-contaminated sugar in the production of beer, causing 6,000 poisonings and about 70 deaths.[4] Powdered milk contaminated with arsenic trioxide resulted in over 12,000 poisonings and 128 deaths in Japan in 1955-1956.[1] In addition to accidental exposures, arsenic has been used extensively by poisoners, who have favored it for its lack of taste or odor. Lucrezia Borgia used arsenic to poison "unwelcome" banquet guests, and hair clippings from Napoleon revealed intermittent arsenic exposure prior to his death.[3] Although it is infrequently used as a homicidal agent at present due to sensitive tests for detecting its presence, 56 confirmed cases of arsenic poisoning were diagnosed at Duke Medical Center from 1970 to 1980.[5]

Acute intoxication with arsenic initially produces a metallic taste and a garlic-like odor to the breath. This is fol-

lowed by the abrupt development of severe nausea, vomiting, colicky abdominal pain, and profuse diarrhea. In severe cases, this can proceed to hypovolemia, acute renal failure, cardiac failure, cardiac dysrhythmias, cerebral edema, coma, and death. In addition to the above symptoms, exposure to arsine (AsH_3), a highly poisonous gas produced during the smelting and refining of certain metals, produces a rapid hemolysis, resulting in an elevated plasma hemoglobin and hemoglobinuria.[6] On several occasions, our patient was hospitalized with the acute onset of severe nausea and vomiting, dehydration, and an exacerbation of his neurologic symptoms.

Chronic arsenic intoxication is protean in its manifestations, affecting virtually every organ system in the body. In general, the patient may present with chronic weakness, anorexia, weight loss, hoarseness, lassitude, and a variable degree of dementia, all of which were demonstrated by our patient. Cutaneous manifestations are non-specific, but include a coppery pigmentation of the skin due to the deposition of melanin and hyperkeratoses of the palms of the hands and soles of the feet (see figure 1). Transverse white bands crossing the nails that do not blanch with pressure are referred to as Aldrich-Mee's lines.

Hematologic manifestations include the development of anemia, leukopenia, and frequently thrombocytopenia; a mild absolute eosinophilia commonly occurs.[7] Peripheral erythrocytes develop coarse basophilic stippling as well as multinucleated forms, and karryorhexis, representing accelerated pyknosis of the normoblast nucleus, is seen in the bone marrow.[7,8] Our patient's anemia and leukopenia were initially atributed to therapy with tegretol; in retrospect, all of his hematologic abnormalities can be attributed to chronic arsenic exposure.

Arsenic also has chronic effects on the gastrointestinal tract, producing stomatitis, chronic diarrhea, and malabsorption, as well as hepatotoxic effects, including fatty infiltration, central necrosis, and eventual cirrhosis.[3] Cardiac effects include conduction abnormalities, producing typical electrocardiographic changes including prolonged atrioventricular and intraventricular conduction times as well as prolongation of the QT interval with abnormal ventricular repolarization.[2] Our patient presented with atrial fibrillation, and, on one occasion, his electrocardiogram suggested an acute myocardial infarction. Lastly, exposure to arsenicals has been associated with carcinogenesis, most commonly skin cancers such as Bowen's disease and squamous cell carcinomas.[2]

Arsenic poisoning affects both the central and the peripheral nervous system, but its effects on the latter predominate. Typical features of asrsenical neuropathy usually develop within one to three weeks after exposure and include numbness and paresthesias, diminished sensation, and reduced muscle power, all of which are more pronounced distally.[9] Foot and wrist drop are common, and deep tendon reflexes are frequently absent or diminished. Nerve conduction studies have demonstrated diminished or absent evoked sensory potentials with prolongation of both sensory and motor conduction, and histologic studies have shown segmental demyelination as well as axonal degeneration.[10] By the time our patient was finally diagnosed with arsenic intoxication, his peripheral dysesthesias had progressed to the point that he was barely able to walk due to the severe pains in his feet.

Symptoms pertaining to involvement of the central nervous system may occur in 15-20% of patients; these symptoms are usually mild and quickly respond to therapy.[3] In more severe cases, on the other hand, there have been reports of toxic delirium, coma, and seizures. Convulsions are felt to represent a clinical manifestation of encephalorrhagia (''brain purpura''), with pericapillary hemorrhage and degeneration serving as foci for seizure activity. On several occasions, one of the symptoms our patient developed following a presumed acute exposure to arsenic was an exacerbation of his seizure disorder; it is not known whether this represented a primary effect of the arsenic on his central nervous system or a possible unmasking of a subclinical seizure focus. In general seizures are rarely seen with arsenic intoxication, and their presence usually signifies a preterminal event.

Management of acute arsenical intoxication includes gastric lavage to remove residual arsenic in the stomach and administration of a cathartic to decrease intestinal absorption of arsenic; intravascular volume is maintained with intravenous fluids. In arsine poisoning, supportive management may include exchange transfusion for the hemolysis and hemodialysis for acute renal failure. Chelating agents, such as dimercaprol (British antilewisite, 2,3-dimercaptopropanol) and D-penicillamine, both thiol-containing metal chelators, provide a specific mechanism for inactivating toxic arsenicals.[3] Dimercaprol was first developed during World War II as an antidote for the German war-gas lewisite (chlorvinylchlorarsine, $C_2H_2Cl_3As$), which combines the vesicant effects of mustard gas with the toxic action of arsenic. Dimercaprol is most useful in the treatment of acute arsenic poisoning, except for arsine exposure, on which it has little effect. Although the benefit of dimercaprol in chronic intoxication is unclear, a therapeutic trial is usually indicated since partial reversal of some of the manifestations has been reported.[3] Dimercaprol is essentially ineffective in the treatment of arsenical neuropathy unless it is initiated within hours of ingestion.[9] D-penicillamine is a monothiol chelating agent used in the treatment of Wilson's disease for its ability to chelate copper; it has also been demonstrated to be efficacious in the treatment of arsenic poisoning, although it is felt to be less effective than dimercaprol in reversing the toxic effects of arsenic.[3]

In summary, our patient developed chronic arsenic intoxication as a result of intermittent acute exposure. His original diagnosis of temporal lobe epilepsy could not explain all of his symptoms, and may have contributed to the delay before the correct diagnosis was actually made. In fact, it is unclear to us whether his seizures can be rightfully

connected to arsenic exposure or whether they represent a separate, unrelated process. ■

References

1 Fowler BA. Toxicology of environmental arsenic. In: Advances in modern toxicology, Volume 2: toxicology of trace elements. Goyer RA and Mehlman MA (eds). Washington, D.C.: Hemisphere Publishing Corp., 1977, pp. 79-122.

2 Hindmarsh JT, and McCurdy RF. Clinical and environmental aspects of arsenic toxicity. CRC Critical Rev in Cl Lab Sci 1986;23:315-47.

3 Schoolmeester WL, and White DR. Arsenic poisoning. South Med J 1980;73:198-208.

4 Kelynack TN, Kirkly W, Delepine S, and Tattetsall CH. Arsenical poisoning from beer-drinking. Lancet 1900;2:1600-2.

5 Massey EW, Wold D, and Heyman A. Arsenic: homicidal intoxication. South Med J 1984;77:848-51.

6 Fowler BA, and Weissberg JB. Arsine Poisoning. New Engl J Med 1974;291:1171-4.

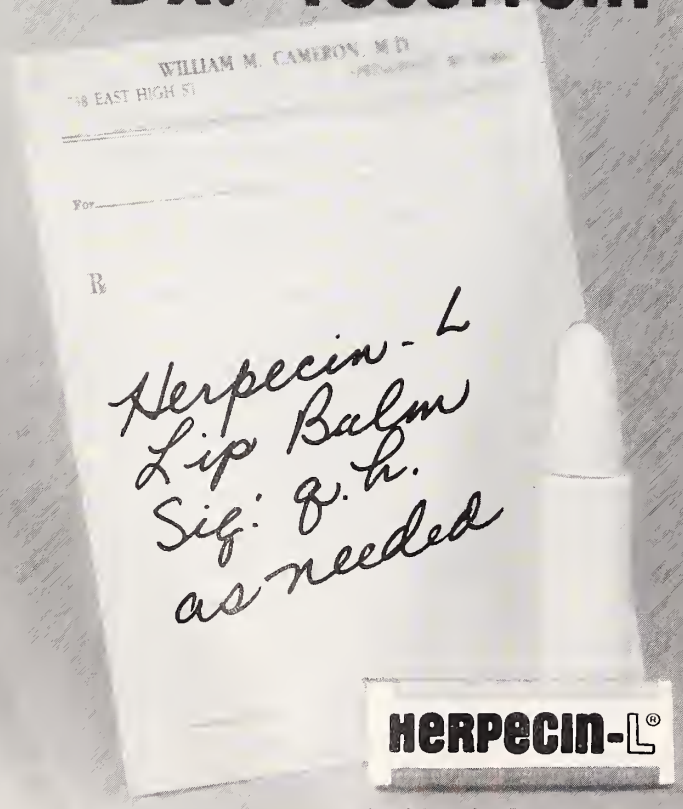
7 Kyle RA, and Pease GL. Hematologic aspects of arsenic intoxication. New Engl J Med 1965;273:18-23.

8 Feussner JR, Shelburne JD, Bredehoeft S, Cohen HJ. Arsenic-induced bone marrow toxicity: Ultrastructural and electron-probe analysis. Blood 1979;53:820-7.

9 Heyman A, Pfeiffer JB, Willett RW, and Taylor HM. Peripheral neuropathy caused by arsenical intoxication. New Engl J Med 1956;254:401-9.

10 Chuttani PN, and Chopra JS. Arsenic poisoning. In: Handbook of clinical neurology, Vinken PH, and Bruyn G, (Eds). Amsterdam: Elsevier/North Holland, 1979, pp. 199-216.

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Outreach in Chatham County

John W. Hatch, Dr.P.H.

Access to and availability of health care services among black people living in rural communities in North Carolina has improved vastly over the past two decades. While health status has also improved during this period, the rate of preventable and controllable morbidity and mortality due to cardiovascular disease and poor infant and maternal care remain unacceptably high.[1] It is believed that most appropriate utilization of existing health care resources will have substantial impact on this problem.[2] The challenge rests in identifying and implementing strategies for changing selected patterns of health-directed and health-related behavior and for gaining support from health professionals.

In 1979 the author, assisted by two graduate students, initiated a community health education project in Chatham County in cooperation with black churches and health care professionals in the county. Since then, the model we developed in Chatham County has influenced health promotion efforts in three major denominations serving black people in the Carolinas. The General Baptist state convention sponsors an office of Health and Human Services through its central administrative offices in Raleigh. During the past five years the program has trained nearly 1,000 volunteers who encourage prevention through behavior change and more appropriate utilization of existing health care resources. The convention serves over 400,000 Black Carolinians through a network of 1,700 churches. African Methodists of the Cape Fear Conference, serving 13 counties in the eastern region of the state, provide health advocacy training to clergy and lay volunteers through the Shaw-Speaks Center in Wilmington and centrally located churches in their service area. United Methodist in South Carolina are training part-time paid coordinator/organizers to work with communities and churches for improved maternal and child health and cardiovascular health. A pilot program in Bamberg County will be replicated in other regions of the state. These programs are open to churches without regard to denomination or race. Health care professionals provide services without cost.

From Department of Health Education, School of Public Health, Rosenau Hall 201H, University of North Carolina, Chapel Hill 27514. The project described was supported by a grant under Title I of the Higher Education Act of 1956.

Our Experience

Conversations with community leaders confirmed our concern that many people were not utilizing health care resources in ways likely to improve health status. Socioeconomic change had come rapidly. In recent years, a physician who had been in practice in the county seat for over 40 years closed shop, tenant farming declined rapidly over the past 15 years, schools desegregated, and women entered the wage-paying labor force in large numbers. Crossroads grocery had not survived competition with the supermarket.

Notwithstanding the increased accessibility of health care resources because of better work-related benefits, Medicaid, and Medicare, coupled with reduction of racial barriers, people's general knowledge, attitudes and behavior toward health care services seemed little changed. We began by seeking out community leaders, informing them of our concerns, and asking if they felt a need for improved access to health care resources. Our next question was: "Are there people willing to make a commitment of time toward helping others?" We knew that the helping ethos was deeply imbedded in the rural church, and selected them as point of entré into the community.

Based on these observations, a demonstration project was designed and implemented, with the overall goal of strengthening the role of indigenous helping networks in the following three areas:

1 Promoting preventive health behavior.
2 Matching people experiencing health problems with appropriate resources, both lay and professional.
3 Helping community members toward more appropriate utilization of health care services.

The program objectives were:

1 To identify and train lay persons to serve as health information and resource coordinators within their respective churches, in order to increase by 20% the number of people in the group able to give proper information on risks and appropriate interventions (e.g., self-help/advocacy, resources identification and referral) for the conditions of: hypertension; diabetes; and pregnancy; plus two or three other conditions to be determined by the participants.

2 To provide a forum where participants would develop strategies and plans and serve as catalysts in strengthening their own churches' role in promoting and being supportive of positive health behavior.

Initial contacts were made with pastors and church leaders through one-to-one conversation and small group sessions. We told them of our concern about the higher rate of infant mortality and the persistence of large numbers of cases of uncontrolled hypertension and poorly controlled diabetes in the black adult population in Chatham County.

Discussions focused on actions that churches could take to help improve the health of the community. Pastors and church leaders were encouraged to raise questions and to identify and discuss other health concerns. While our intervention targeted promotion of maternal and child health and the prevention and control of diabetes and hypertension, we agreed to offer additional sessions on other topics when justified by interest, contingent on identification of technical resource persons willing to volunteer their services.

Churches electing to participate were asked to select three persons for training as health advocates with the understanding that training would entail a minimum of 20 contact hours offered in two-hour sessions once a week over a 10-week period. Those certified as health advocates would be required to pass three examinations with a score of 70% or higher. On completion of training, health advocates were expected to know the following:

1 How their community compared with others in maternal and infant health, and in the prevalence of diabetes and hypertension, including the percentage of cases not controlled.
2 The primary reasons for disproportionately high levels of preventable morbidity and mortality.
3 Availability of institutional and professional health services and related resources.
4 Action the individual, family and community should take toward prevention and control of problems related to diabetes, hypertension and maternal and child health.
5 Specific ways for individuals to share newly gained knowledge with family and friends, including counseling, referral, and organizing education and screening opportunities for special groups.

In selecting volunteers, congregations were asked to consider: (1) previously demonstrated willingness to help others; (2) stability, with demonstrated success in living and with plans to remain in the community for at least two years after training; (3) ability to follow through on assigned tasks; (4) the level of trust and respect for the individual on the part of various age, sex, family and friendship groups in the community; (5) personality conducive to effective communication with neighbors and professionals; and (6) additional characteristics the congregations saw as important to doing the job.

Our belief in helping communities increase their self-reliance and ability to act in their own interest guided our efforts to improve relationships with local health service resources. We knew that the institutional and professional resources needed to reduce excess morbidity and mortality existed in the community. They included the public health department, a community hospital, a comprehensive community health center, social services, a community action program, and private practitioners. The next challenge was to inform them of the project and request their involvement as presenters for technical portions of the training.

Several persons from the group of community advisors were asked to recommend physicians they perceived as likely to respond positively to the project. Initially, I doubted private practice physicians would respond to an unproven project directed by a health educator that would require about four hours of time. Tasks included a pre-planning conference with the health educator, preparation of the topic, presentation followed by questions, and travel to a rural church. It was decided that, whenever possible, requests for such participation would be made by a community person who had a personal relationship with the provider.

A health education graduate assistant provided technical support to the practitioners in planning and designing their presentations, the intention being to assist in the preparation of material appropriate to the learning style of the audience. Suggestions for content and questions from participants were given to the presenters in advance with the intention of increasing volunteer interest in the session and providing professional insight into the level of knowledge and types of concerns likely to be expressed during the sessions. We hoped that close attention to the need for information, and an informal format in a setting comfortable to the volunteers, would facilitate communication.

Physicians participating in the project were Dr. Joseph Dugan, an internist in private practice in Siler City, who developed the module on diabetes; Dr. James Swankl, who anchored the series on maternal and child health; and Dr. Samuel Putnam, and internist employed by the Orange-Chatham Comprehensive Health Center in Moncure, who provided oversight for the module on hypertension. A nutritionist and nurse from the health department, a clinical psychologist-epidemiologist from the University of North Carolina School of Public Health, and students from the Schools of Medicine, Nursing, and Public Health at the University of North Carolina at Chapel Hill presented or played support roles in the training program.

The importance of communication between community people and health professionals was emphasized in all sessions. Both the church volunteers and the professionals learned from these sessions. The professionals became aware of strengths in the community not previously recognized — strengths such as the role of the church in defining world view and providing affective and instrumental support during times of crisis, and the social power of church mothers*

*Church mothers are selected from the ranks of women, usually past 70 years of age, on the basis of wisdom, exemplary personal behavior and adherence to the spiritual life.

in matters related to child rearing, family life and issues concerning values and morality. The volunteers increased their knowledge about the resources and action necessary to improve maternal and child health and learned of ways to reduce the risk of developing hypertension and diabetes. They learned about resources at the individual, family and broader community levels that could be mobilized for better prevention, control, and management of these two chronic diseases found at high rates in their community. Feelings of social distance declined as the volunteers and the professionals discovered common ground.

Morale boosters I recall included over-enrollment in Dr. Dugan's series on diabetes; the public health nurse who stayed on for tea and cookies; requests for an additional session on stress management; and attending homecoming festivals and finding specially prepared foods for hypertensives and diabetics.

Evaluation was an important part of the demonstration project. Increases in the appropriate technical knowledge, particularly with regard to hypertension, diabetes and child/maternal health issues, have been measured, with positive results. Persons with less than 12 years of formal education experienced greater gains in pre/post test evaluations than those with high school educations. This suggests that those with lesser levels of education have less technical knowledge from the onset of the intervention. Although all participants learned, these participants learned more.

Diffusion of knowledge took place across church, community and racial boundaries. Ten percent of those receiving counseling from volunteers were white. Information was more likely to be transferred in the workplace and at the laundromat. Men tended to be less well-informed and less aware of health issues than women. Those selected by their congregations for health advocates training tended to be stable, somewhat better educated and economically better off than the average for their communities.

Conclusions

This project was a practical demonstration of outreach, and it supports the notion that intervention at the community level is a sound means of addressing problems of inadequate knowledge and resource utilization.

Beliefs, norms and values held at the community level often contribute to behavior patterns, influencing what people do to maintain health and treat disease. Strategies designed to share responsibility for the community's health must include ways to increase knowledge and health-positive action within the variety of subcultures that make up the service population.

The major challenge is to convince those in decision-making positions of the efficacy of outreach. This will require well planned and carefully evaluated interventions, with clearly identified benefits from allocating more resources to people at the grass roots so that they can play a stronger role in maintenance and improvement of their health. These benefits might include: (1) improved patterns of utilization; (2) greater reliance on personal and community resources for health management; (3) increased knowledge; (4) appropriate responses to new knowledge; (5) increased community support for health services; and (6) volunteer action groups targeting specific health and health-related concerns. ■

References

1 Selected Health Status and Demographic Data for North Carolina. N.C. Dept. of Human Resources, Raleigh, 1976.

2 Task Force Report on Black and Minority Health (Executive Summary) D.H.H.S. Vol.1, U.S. Gov. Printing office, Washington, D.C. 1986.

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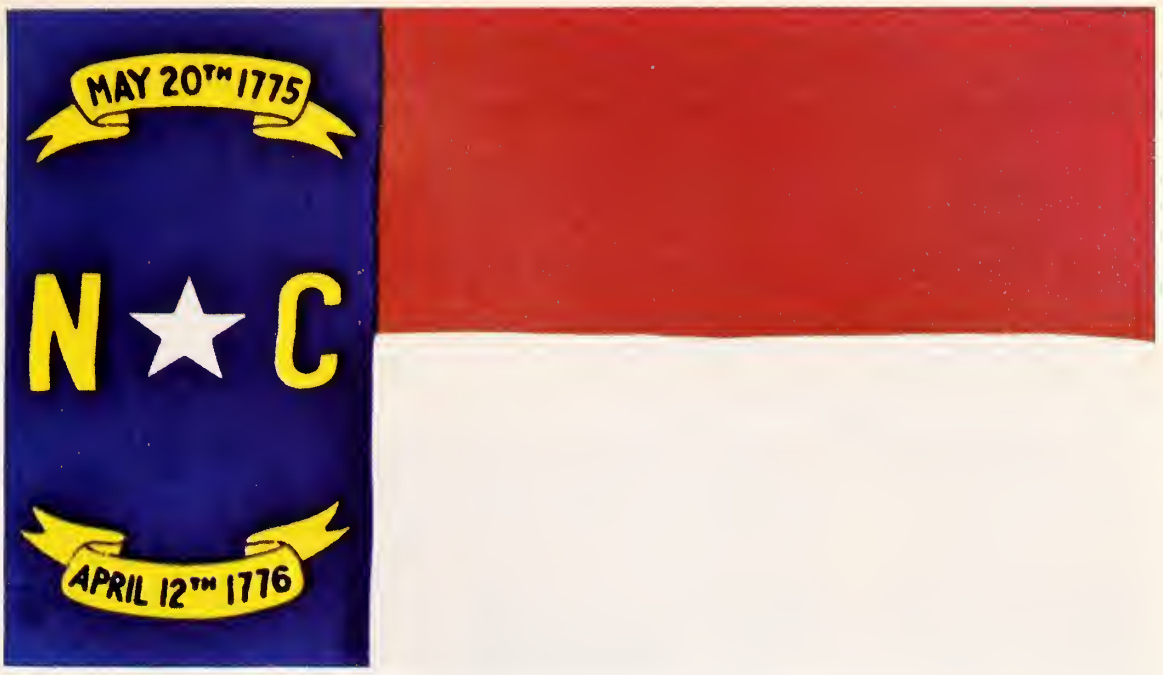
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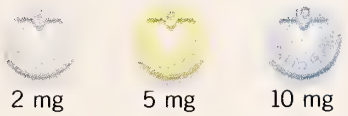


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Carotid Cavernous Fistula

Closure with Detachable Silicone Rubber Balloons

John T. Curnes, M.D., Robert A. Whaley, M.D., and Bradford B. Walters, M.D., Ph.D.

Traumatic carotid-cavernous fistulae are caused by injury to the cavernous portion of the internal carotid artery. The clinical syndrome accompanying this injury is unmistakable and dramatic. Treatment of the fistula using a detachable balloon system can be a safe and practical method of dealing with this problem.

Our patient was a 21-year-old white male who was assaulted in December 1986. He suffered a mandibular fracture and facial fractures. Shortly thereafter, he noted a "whushing" sound in his right ear, as well as double vision for the first time.

He had a markedly proptotic right eye with conjunctival injection. This eye pulsated and had an easily audible bruit. In addition he had a mild third nerve palsy on the right and venous engorgement on fundoscopic exam.

Cranial computed tomography (CT) of the head and orbits was performed with contrast infusion, demonstrating a bulging right cavernous sinus, proptosis, and enlarged superior orbital vein (figure 1). Confirmation of the diagnosis was made at cerebral angiography, where a large traumatic fistula was demonstrated between the right internal carotid artery and the inferior portion of the right cavernous sinus (figure 2).

The patient was taken to the angiographic suite where a 9F catheter was inserted into the right internal carotid artery via the transfemoral approach. A sterile mini-balloon was maneuvered into the area of the fistula, inflated to about 5-6 mm in size, and detached. A post procedure angiogram showed slowed but persistent flow in the fistula. A second balloon, of similar size, was directed through the fistula, inflated and detached. A second angiogram showed essentially complete obliteration of the fistula (figure 3).Auscultation failed to elicit a bruit, and examination of the eye showed immediate decrease in proptosis and chemosis. A lateral non-magnified view of the skull was taken

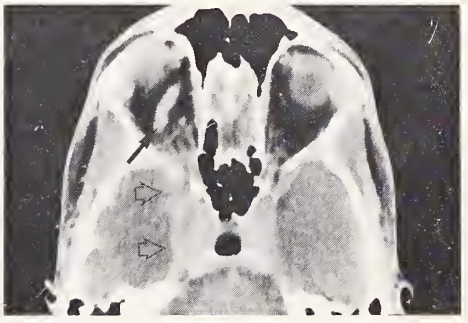


Figure 1. Cranial computed tomography with contrast infusion showing a dilated cavernous sinus (open arrows), and enlarged superior ophthalmic vein (large arrow). Note the normal size of the cavernous sinus and superior ophthalmic vein on the left.

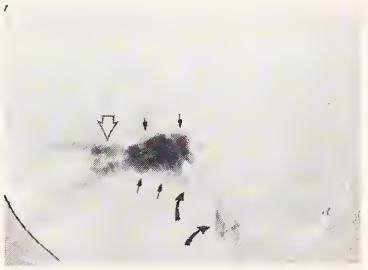


Figure 2. Right internal carotid arteriogram demonstrating a large carotid cavernous fistula draining primarily into the superior ophthalmic vein anteriorly (open arrow) and the inferior petrosal veins posteriorly. Carotid artery (curved arrows), cavernous sinus (small arrows).



Figure 3. Right internal carotid arteriogram after placement of two 2 mm balloons in the cavernous sinus via the fistula. Note essentially complete obliteration of the fistula.

From the Department of Radiology, Duke University Medical Center, Durham 27710 (JTC); and the Department of Radiology (RAW) and Division of Neurosurgery (BBW), the University of North Carolina School of Medicine, Chapel Hill 27514.



Figure 4. Lateral skull film showing the location of the two balloons in the cavernous sinus.

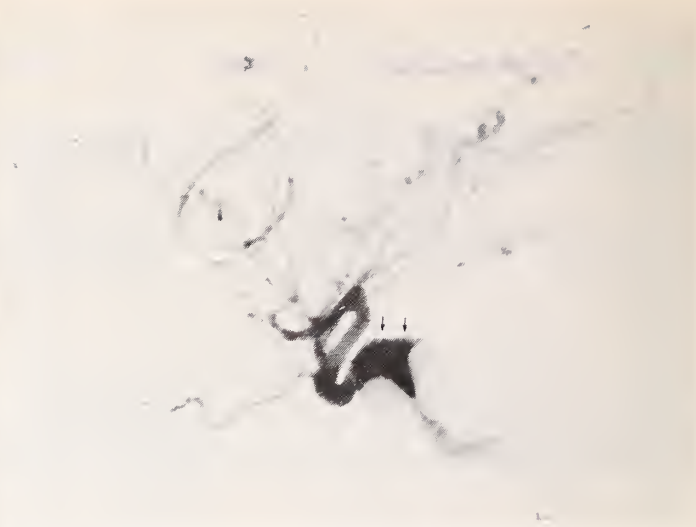


Figure 5. Repeat right internal carotid arteriogram three weeks later, showing 1x1 cm^2 pseudoaneurysm (arrows).

following the procedure and repeated the next morning to document the size and location of the balloons (figure 4).

Post-procedure course was notable for severe pain over the next 24 hours, controlled by morphine, and a sixth nerve palsy. He was discharged on the second post-procedure day. However, twelve days after the embolization, he returned with acute worsening of pain and increasing diplopia. Examination revealed complete third nerve palsy. A lateral skull film suggested that slight superior migration of the posterior balloon had occurred, possibly stretching the third nerve acutely. Repeat angiography showed no recurrence of fistula, and the carotid was widely patent. However, there was a 1x1 cm^2 pseudoaneurysm originating near the site of the previous fistula (figure 5). The patient's pain and diplopia improved markedly over the next several days.

Discussion

Carotid cavernous fistulae can be of traumatic, spontaneous, or congenital origins. By far, the traumatic causes are most common, usually resulting from a severe basilar skull fracture with tearing of the carotid artery. Other less common traumatic causes include stab wounds, injury during transsphenoidal removal of pituitary lesions, or injury following Fogarty balloon removal of clot from the carotid artery at endarterectomy.[1]

The most common presenting complaints by the patient include bruit, proptosis, conjunctival redness, diplopia, and blurred vision. All nerves traversing the cavernous sinus, namely the third, fourth, sixth, and first division of five, can be compromised as a result of either the initial trauma or the increased flow through the fistula. Rarely, hypoxic ocular changes may lead to blindness.

The computed tomographic and angiographic features of these fistulae are unmistakable. On CT, an enlarged cavernous sinus, prominent superior orbital vein, and proptosis confirm the clinical impression and mandate angiography. Selective internal and external carotid angiography, with rapid filming, delineates the exact point of communication. In the vast majority of cases this is located where the internal carotid artery pierces the inferior portion of the cavernous sinus. This fistula results in very early, dense opacification of the cavernous sinus — so dense, in fact, the fistula cannot always be seen. By injecting the ipsilateral vertebral artery while compressing the carotid artery, one can obtain an exquisite view of the fistula via contrast refluxing through the posterior communicating artery, down the cavernous carotid, and out the rent. Other angiographic features of carotid cavernous fistulae include dilation of secondary venous structures (especially the superior ophthalmic vein) and poor visualization of the intracranial vasculature.

Many procedures have been employed in the treatment of this disorder, including direct surgical or intravascular occulusive therapy. The techniques of transfemoral intravascular embolization have now improved to the point that the detachable balloon has become the treatment of choice for carotid cavernous fistulae.

The Bard Parker mini-balloon detachable balloon system is the device with which we have had the most experience.[2] It comes in a unique pre-prepared delivery system that facilitates the rapid and accurate introduction of the balloon to the site of the fistula (figure 6). The silicone rubber balloon, attached to a radiopaque, 3 French, polyurethane catheter, is injected through a larger catheter already in place in the internal carotid. After the balloon is inflated with a radiopaque contrast agent, a small valve mechanism at the junction of the balloon and catheter permits the balloon to be detached from the catheter and remain sealed (figure 7). Subsequent blood stasis, clotting and fibrous tissue growth at the balloon site produce permanent occlusion and guard against balloon migration. The balloon remains in the vessel and is easily visualized on skull radiography (figure 4).

Complications can be expected in about a third of patients in whom this procedure is performed.[3,4] The most common adverse effect is that of transient cranial nerve palsy. This

is usually due to compression of the nerves against the wall of the cavernous sinus, and almost always resolves in days to weeks. Our patient had an almost immediate sixth nerve palsy, and several days after the procedure he developed a third nerve palsy, the latter probably related to movement of a balloon within the sinus. Pain can also be a prominent feature, due to tension on the dura and first division of the fifth cranial nerve. Pseudoaneurysm formation can also occur, causing pain and third nerve palsy. In those patients in whom the pseudoaneurysm is small (less than 1 cm) as in our patient, the pseudoaneurysms do not go on to enlarge or become a problem clinically. However, in those cases where the pseudoaneurysm is larger, and intractable pain and cranial nerve deficit predominate, it may be necessary to permanently occlude the carotid and the neck of the false aneurysm with another balloon.[5]

A more serious problem can occur when the balloon becomes detached in the mainstream of the carotid artery, not in the fistula. This can result in occlusion of the internal carotid artery, or intracranial migration and occlusion of the middle cerebral artery. Neurologic deficit can result, either temporary or permanent.

Balloon deflation can occur also, possibly resulting in distal embolization. Fortunately, fibrosis and obliteration of the fistula has usually occurred by a week to ten days, preventing migration of the balloon outside the cavernous sinus.

In summary, the treatment of choice for carotid cavernous fistulae is with a detachable balloon placed in the fistula via an endovascular, transfemoral approach. In the hands of experienced neuroradiologists, the probability of successful obliteration is high and the complications of the procedure can be minimized. ■



Figure 6. Photograph of the balloon system displaying the inflated balloon (open arrow),3 French catheter (straight arrows) introducing system (curved arrows) and syringe used to inflate the balloon (at left).

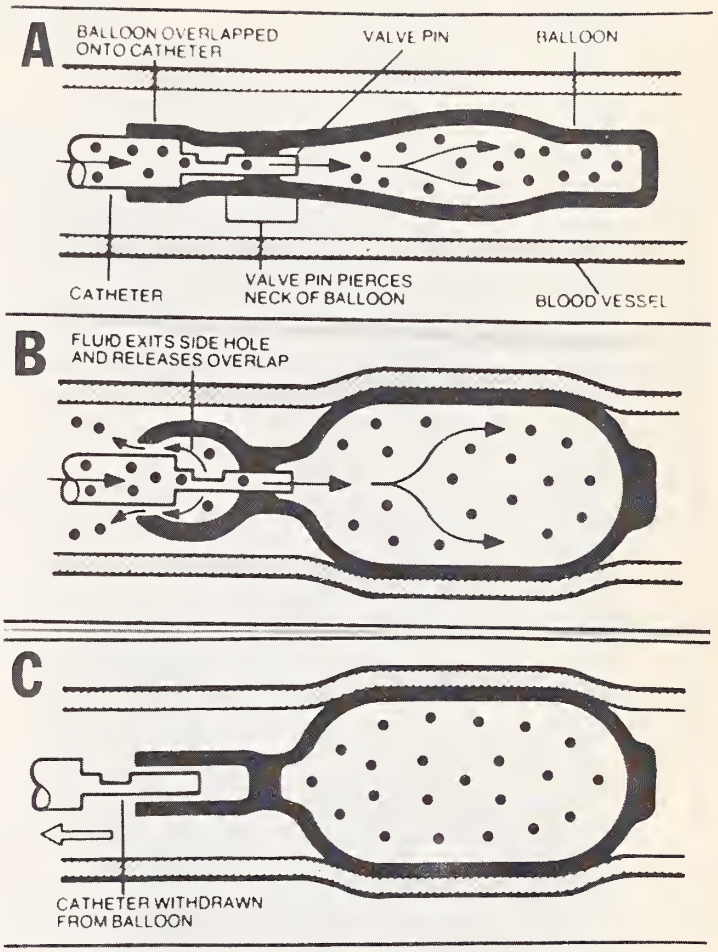


Figure 7. Schematic of balloon and valve pin. (A) The partially inflated balloon fills with contrast. (B) Once the balloon is compressed by the sidewalls of the cavernous sinus, fluid or contrast material leaks through the sidehole of the valve pin, thus lubricating the contact points of the balloon neck and valve pin permitting easy detachment. (C) Catheter and valve pin withdrawn from inflated balloon.

References

1 Newton TH, Potts DG. Radiology of the skull and brain. Mosby, 1974, Vol. 2, Book 4, pp. 2552-7.

2 Becton Dickinson/Bard-Parker package insert for detachable balloon system.

3 Debrun GM. Treatment of traumatic carotid-cavernous fistulae using detachable balloon system. AJNR 1983;4:355-6.

4 Norman D, Newton TH, et al. Carotid-cavernous fistula: closure with detachable silicone balloons. Radiology 1983;149:149-57.

5 Debrun G, Lacour P, Vinuela F, et al. Treatment of 54 traumatic carotid-cavernous fistulas. J Neurosurg 1981;55:678-92.

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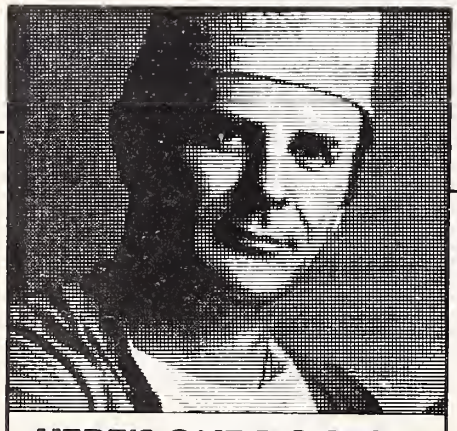
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For Patients

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Toys

Good, Bad, but Never Indifferent

SHIRLEY K. OSTERHOUT, M.D.

According to Webster's Dictionary, a toy is a pastime or a sport, a plaything, trinket or bauble, a thing of little value or little importance. It is probably a rare parent who would consider a toy that is used and loved by a child to be of little importance, much less of little value. Toys are used to stimulate creativity, to provide endless hours of happiness, to encourage social interaction, to improve physical coordination, and to teach new tasks. They are also a source of heartbreak when broken or lost, of arguments between siblings, and of envy. The toys advertised in the supplements that thicken our newspapers starting in November give a wonderful history of the culture of the time, popular fads, favorite movies and television programs, and our national mood, whether peaceful or violent. But toys can be dangerous and can kill.



We do not like to read in newspapers that the United States Consumer Product Safety Commission estimates more than 135,000 persons received hospital emergency room treatment from such favorite playthings as dolls, toy trucks and cars, toy wagons, and balls. We do not want to read in the medical literature that cytomegalovirus can be recovered from toys recently mouthed by infected children.

Falls on or against toys are frequent causes of accidents resulting in cuts and bruises, fractures, and strangulation. Children have also seriously injured themselves by swallowing or choking on small parts, by placing tiny toys or parts in noses or ears, and by cutting themselves on sharp objects and points. There are toys that are hazardous because of chemical ingestion or skin burns, and electric shock and burn injuries.

Although our dictionary definition calls toys baubles and trinkets, there are playthings that do not come under this description but that do fit into the consumer definition, such as roller skates, ice skates, skateboards, tricycles, bicycles, all-terrain vehicles (ATVs) and airguns.

Toys, in the broader definition, are an integral part of our life, health, and safety. Each year, 5,000 new toys enter the marketplace. The Christmas holiday season will find an estimated 150,000 different kinds of toys for sale at over a million retail outlets.

Medical Director, Duke Poison Control Center, Duke University Medical Center, Durham. Artist: Irene Roderich.

Hazards

What are the hazards? Why do we allow them? Should we put the blame on the manufacturer, the government, or the consumer? All three.

Under the Federal Hazardous Substance Act and the Consumer Product Safety Act, the United States Consumer Product Safety Commission (CPSC) was established in 1973 and has set safety regulations for certain toys and other children's articles such as sleepwear. Manufacturers must design and make their products to meet regulations so hazardous products are not sold.

Some regulations set safety specifications for specific kinds of products, while others deal with hazards from a wide variety of toys or children's products. The following CPSC toy regulations are now in effect.

Sharp points and sharp edges. Regulations that became effective in late 1978 and mid-1979 provide manufacturers with testing methods to ensure that toys and other articles intended to be used by children less than eight years old do not have hazardous sharp points or hazardous sharp glass and metal edges.

Small parts. In 1980, regulations were developed eliminating small parts from toys intended for use by children under three years of age. Unfortunately, under this current standard toys on which small children can choke are labeled as safe for children's use.

The Consumer Federation of America in a recent newsletter criticized this regulation, which, although it states that all products for youngsters less than three years must not present a hazard of choking aspiration or ingestion, does not provide test techniques adequate to prevent injury and even death. The government uses a small parts test cylinder with a diameter of 1.25 inches and a depth of 1 to 2.25 inches. If an object fits within the test cylinder, its sale is prohibited. If any part protrudes from the cylinder, the object passes and may be sold as safe. Thus, a toy passes the standard regardless of diameter if long enough to protrude from the cylinder. According to a report by the CPSC in 1983, at least 49 of 136 choking incidents, including at least 36 deaths, involved objects passing this standard.

Pacifiers and rattles. Even an infant may not be safe. Regulations require that these objects be designed so that they cannot lodge in an infant's throat or separate into small pieces.

Clacker balls. These are a novelty toy consisting of two plastic balls, connected by a cord, which can be "clacked" together by a rhythmic motion of the hand. These toys must be made in accordance with strict performance requirements so that the plastic balls will not shatter or fly off the ends of the cord.

Electrically operated toys. Since 1973, safety specifications have been in effect to prevent electric shock and burn injuries resulting from poorly made electrical toys.

Lead paint. The amount of lead in paint used on toys and other children's articles is severely limited to less than 0.06%.

Sound level of toy caps and guns. The Commission regulates the amount of noise made by these products to prevent hearing damage.

Lawn darts. These must not be sold in toy stores and must be labeled to indicate that they are not toys and could cause serious injury if misused.

Toys with hazardous chemicals. The Federal Hazardous Substance Act prohibits the use of poisonous and otherwise harmful chemicals in toys and other articles intended for use by children. Chemistry sets, model rocketry sets, model airplanes, fuel, craft sets and other products, which by their very nature must have such chemicals, may be sold if accompanied by instructions and warning labels.

There are also safety regulations for cribs, baby bouncers, walkers, bicycles, fireworks, and children's sleepwear. The Federal Bureau of Standards for many years before the Federal Hazardous Substance Act has regulated the content of crayons made in this country.

Manufacturers must show that their products comply with the regulations for toy safety. Investigators for CPSC inspect firms making or importing products to ensure that regulations are followed. The samples collected during inspections are examined at CPSC Laboratories. Products in violation can present substantial hazard and may be subject to recall. Retailers must then post signs in their stores advising consumers to return the product for a refund.

Despite the efforts of toy makers, retailers, CPSC inspectors, consumer deputies, and other federal, state and local government agencies, it is not possible to examine every toy. It is also not possible to regulate the making of certain toys, the selling of certain toys, the purchase of certain toys and the personal use of toys.

In 1986, CPSC recalled over 1.6 million crib toys because of alleged strangulation hazards to infants. These were colorful, stuffed triplet dolls that were strung together to go across the sides of a crib. They were available by mail order from a reputable toy distributor which advertised in nationally known magazines read widely by parents of young children. About 65,000 were sold through retail stores. There had been two complaints, from the parents of a 10-month-old and a seven-month-old who had allegedly strangled when they became entangled in their cribs. Unfortunately only about 10% of consumers take advantage of the opportunity to return such recalled items.

There have been other similar toys — crib gyms, exercisers, kickers — which are attractive additions to a child's environment, but which are dangerous. The risk of strangulation from these toys is well established. The risk begins when infants are beginning to push up on hands and knees, usually about five months of age. These

babies can pull themselves up to a hanging crib toy and become entangled or fall forward over it. Because infants cannot disentangle themselves, support their own weight, or lift themselves from the toy, this kind of accident can result in serious injury or death. These toys should never be used in cribs and playpens.

There are no standards or tests regulating such toys except common sense and knowledge. There are appropriate places for them in which they can be used with supervision. However, meaningful regulation is not possible because the hazards stem from use rather than design, and in any case these toys can be made by parents, with some magazines even giving directions.

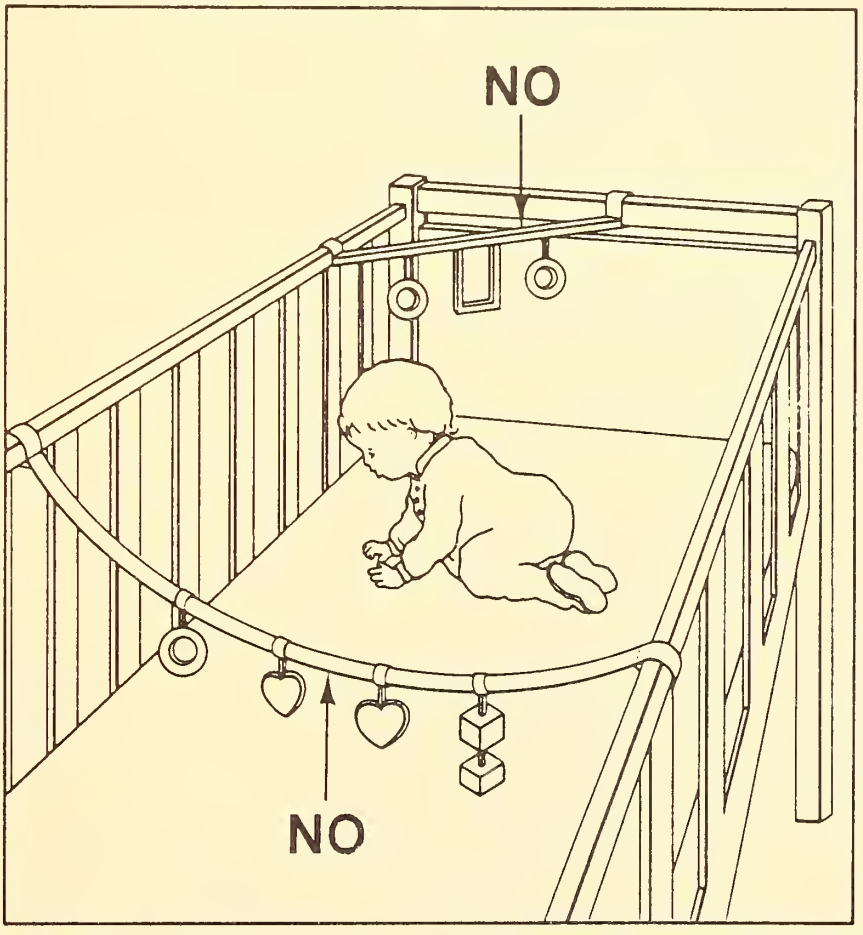
This brings us to a large group of unregulated toys — those made by hand by family members or by crafts people. The latter are usually sold at bazaars, fairs, flea markets and craft shops. Homemade toys are quite popular today. They are most notorious for being dangerous because they may contain small parts which are readily detachable.

Although CPSC makes efforts to control imports, it is not uncommon for foreign-made toys to make the news media and consequently for parents to panic. Several years ago, an imported stuffed animal caused several instances of trauma from an internal wire which became loose and protruded sharply from the animal. In late 1986, a recall was issued for robot toys distributed by a well-known domestic toy dealer, but made in Taiwan and Japan. The paint used in the Taiwan-made product was higher in lead than allowable by law. Approximately 866,000 sets and pieces made in Taiwan were sold nationwide beginning in July 1985. Those made in Japan were considered safe. In the age range for which these toys would be most appropriate, lead poisoning would not be expected since it would not be absorbed through the skin. However, younger siblings might find it fun to chew on these toys!

Another problematic category is toys purchased in foreign lands as gifts or by families living abroad, such as service families, and brought back to the United States.

A popular weekend sport is exploring yard sales and flea markets, which are great sources of old and perhaps broken toys. Other unsafe children's articles are also found in these kinds of sales, such as old and perhaps broken cribs, play pens, car seats, jumpers, walkers, and carriages. These are frequently purchased by unwary consumers looking for bargains. At such sales it is not unusual to find products that were subject to recall or that are out of production due to unsafe features.

These problems also exist with "hand-me-downs" and antique toys, which should be carefully inspected before use.



"These toys should never be used in cribs and playpens."

Adults may also be victims of toy hazards. We all laugh at the movie or TV comedies when someone slips on ill-placed skates or toy trucks. In real life, these can be tragedies.

A three-year-old child seen in a local emergency room had a small plastic car, that had been used as a cake decoration, removed from his nose. There was no problem and he left the emergency room. Several hours later, his father was seen in the same emergency room for the same complaint with the same car! He had not been at home when his son had had the accident, and he doubted that the car could possibly be placed so that it could not be removed. He learned his lesson rather expensively.

The trinkets used as party favors and cake decorations are not regulated, as they are not considered toys for children; but they are commonly used at children's parties and on children's cakes, so they do get into inappropriate hands and then into mouths and other orifices.

Advice for Consumers

The Duke Poison Control Center keeps as much information about toys as can be collected in order to respond

to the variety of calls about possible poisoning hazards. The Center receives many calls, regardless of season; however, we do find some seasonal trends.

During the summer, children are avid bubble blowers, and some end up ingesting the commercial solutions. Often, homemade solutions are prepared from various liquid detergents. Either kind results in mild vomiting.

At the beginning of the Christmas season, the media want stories about holiday hazards, mostly about plants and decorations; but toys and associated articles get more popular at poison control centers each year.

Chemistry sets lead the list. The toxicity obviously depends on the chemical involved, the concentration and the route of contact. In the spring of 1987, we managed a young girl with mild skin burns from sodium silicate. Small disc batteries would be second on the holiday toy list. These rarely cause toxic problems, but if swallowed may result in perforation and local mucosa burns of the gastrointestinal tract. And of course, what about the grandmother who wanted to know if the doll that stooled following feedings of the included "special baby food" would cause a bacterial illness if the "food" stayed too long in the doll? Was it a safe Christmas gift? After giving her my own personal opinion, I gave her the toll-free number for Consumer Products Safety Commission's advice on toys: 1-800/638-CPSC.

Children's perfume is usually considered innocuous, yet we have had the opportunity to deal with one brand containing methanol.

Although chemicals in children's toys are regulated, no one regulates homemade copying. A number of years ago, a popular doll had a home permanent set with small bottles of chemicals. What happened when they were used? Instructions were included so that more could be made. This was brought to our attention when a child was thought to have lip burns from drinking the ammonia solution mom had prepared in a pint container far larger than the tiny bottle which was in the original set. Fortunately, the lesion was early chicken pox and not a corrosive burn.

While regulated for hearing damage, what happens when a roll of caps is swallowed, or shot in an enclosed area where mom cannot hear, resulting in potential toxic fumes?

There are always ingestions or eye contaminations from various craft-making chemicals. What would poison centers do without the routine calls on Play-Doh, Etch-a-Sketch, water colors, finger paints, magic markers and crayons (which are all non-toxic except certain imported crayons)? What would we do without ingestions of Baby-Magic Milk Bottle, and liquid from teething rings, floating toys, and snow scene globes, again all non-toxic. Salmonella may contaminate the latter if they are imported. Of course there are always calls about allergic or carcinogenic effects of contact with dyes or other chemicals used in toy productions. Our major concern with "toy" ingestion is choking. It is amazing what young children will bite off.

The storage of toys may also be of importance. A number of years ago, certain toy boxes were recalled because the lids were heavy and did not remain open, therefore falling quite unexpectedly on the child. Storage of toys is important, as the following personal experience demonstrates. A black widow spider made her home in the cab of a toy truck, many years ago in my driveway. It took her a brief time to accomplish this task. Fortunately, she was discovered before the truck's young owner started building his road again, but she could have created a severe problem for an unsuspecting child. So it is important to watch where toys are stored or left even for short periods of time.

In 1986, an alert in the media brought to attention that some commercially distributed play sand in New Jersey was contaminated with asbestos. A mineral, tremolite, which exists as asbestos or non-asbestos, was found in its non-asbestos form during testing of the sand. Several inquiries were placed to the Duke Poison Control Center. Testing has been done in North Carolina with negative results.

Before toys are removed from the home and our children are needlessly overprotected, there are guidelines which are important for consumers to consider.

Guidelines for the Purchase and Use of Toys

1. New and old toys around the house should be checked periodically for possible hazards.
2. Children should be taught to put their toys safely away on shelves or in a toy chest after playing to prevent tripping on them and falling.
3. Toy chests should be checked for safety. Use a toy box that has a light-weight lid that can be opened easily from within. The lid should stay open when raised. For extra safety, be sure there are ventilation holes for fresh air. Watch for sharp edges that could cut and hinges that could pinch or squeeze.
4. Toys should suit the skill, abilities and interest of the individual child. Do not purchase toys that are too complex for young children. Too many parents assume that their bright child is far enough advanced intellectually to handle a toy designed for older children. This is an unsafe assumption. Toys should also be bought with the child's maturity and level of responsibility considered. A youngster who is not going to take proper care of a complex and possibly dangerous toy could be responsible for a severe accident to a younger sibling. Remember, a toy that is safe for an eight-year-old may be hazardous for a younger child.
5. Avoid hand-me-down toys with small parts for children under three years of age.

6 Look for labels giving age recommendations, such as "recommended for children three to five years old." Use good judgment in deciding whether a toy may be hazardous for a particular child.

7 Avoid toys that shoot objects, injuring eyes.

8 Arrows and darts used by children should have blunt tips made with resilient material, such as rubber or plastic suction cups. Make certain these tips are secure.

9 For infants and very young children, avoid toys with long strings or cords. Cords may become wrapped around an infant's neck causing strangulation. Never hang toys with long strings, cords, loops or ribbons in play pens or cribs where children can become entangled.

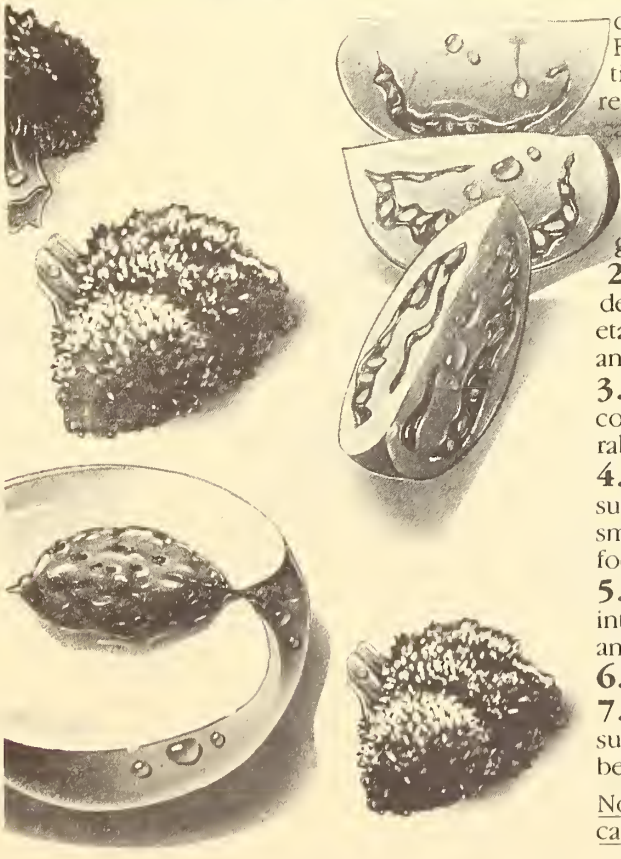
10 Explain to a child how to use toys properly and safely.

11 See that toys used outdoors are stored after play. Rain or dew can rust or damage a variety of toys and toy parts, which could create hazards.

12 Examine toys periodically, watch out particularly for sharp edges and points that may have developed. Repair broken toys and discard toys that cannot be fixed.

Think toy safety, and remember — there is no substitute for adult supervision and common sense. ■

A defense against cancer can be cooked up in your kitchen.



There is evidence that diet and cancer are related. Follow these modifications in your daily diet to reduce chances of getting cancer:

1. Eat more high-fiber foods such as fruits and vegetables and whole-grain cereals.

2. Include dark green and deep yellow fruits and vegetables rich in vitamins A and C.

3. Include cabbage, broccoli, brussels sprouts, kohlrabi and cauliflower.

4. Be moderate in consumption of salt-cured, smoked, and nitrite-cured foods.

5. Cut down on total fat intake from animal sources and fats and oils.

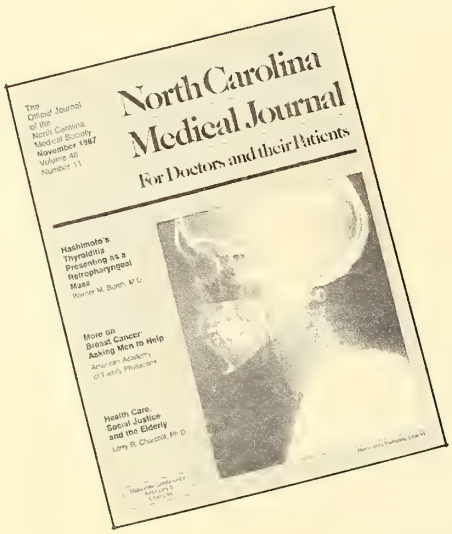
6. Avoid obesity.

7. Be moderate in consumption of alcoholic beverages.

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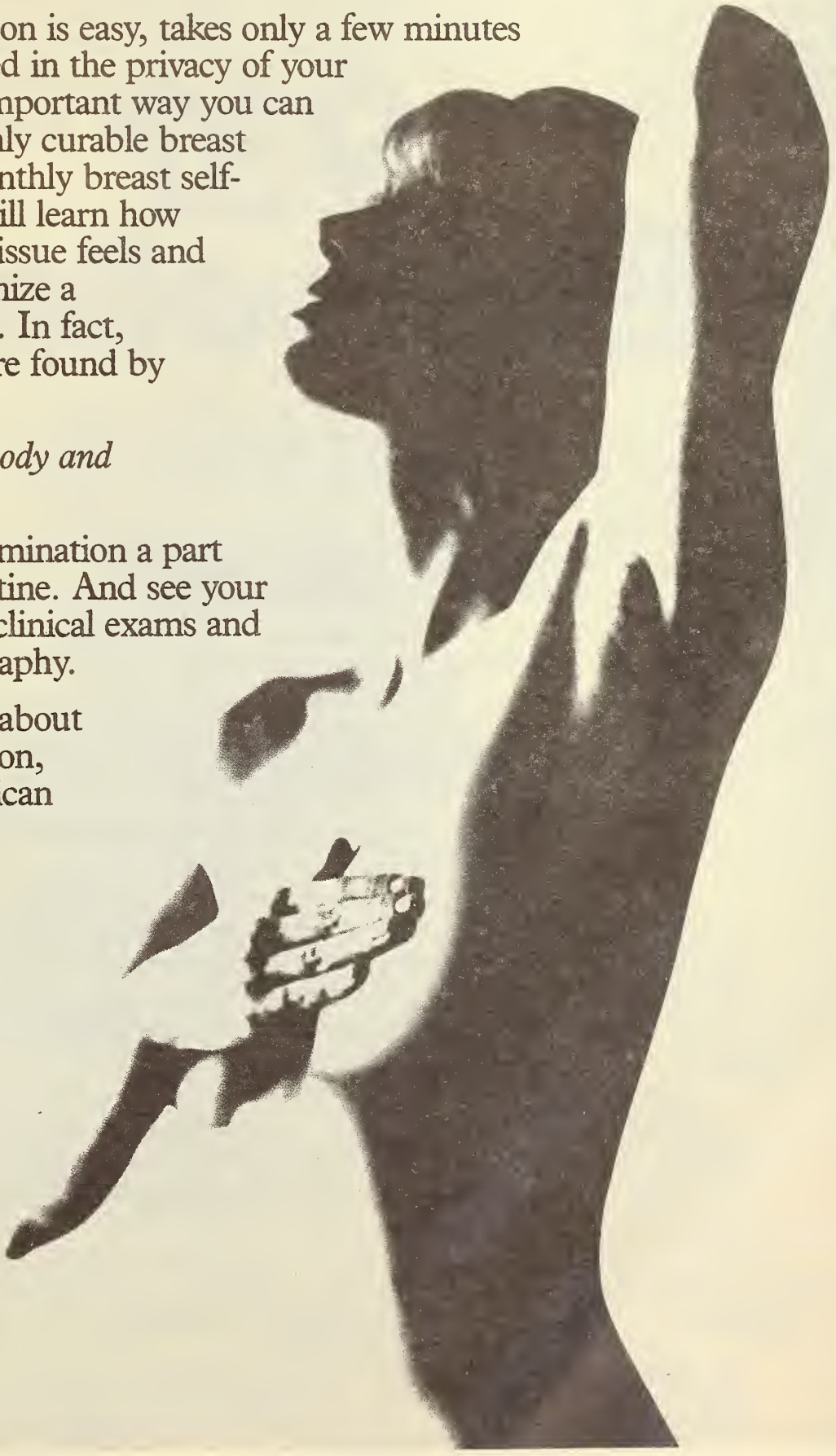
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The Antivivisection Movement

A Threat to Medical Research and Future Progress

David C. Sabiston, Jr., M.D.

The antivivisection movement has again gained momentum and, together with a well financed network across the nation, it is vigorously supporting enactment of crippling legislation at the national and state levels. Such bills have been introduced and are pending action in the House of Representatives and the U.S. Senate in Washington as well as a number of state legislatures. In an effort to stem the tide, extremely thoughtful editorials in the *Washington Post,* the *Wall Street Journal,* and many other national papers and periodicals have presented compelling evidence opposing this effort.[1,2]

The noted Michael E. DeBakey, pioneer surgeon and Chancellor of Baylor College of Medicine, summarized the current drive of the antivivisectionists and the corresponding challenge to the scientific community, stating: "If scientists abandon cat and dog experiments for other models that are not as suitable or as well understood, many potential medical breakthroughs may be severely crippled or halted." He directed his remarks primarily at the Mrazek bill currently before the House of Representatives and the Senate in the nation's capitol. This legislation would ban the use of pound animals for any research supported by the National Institutes of Health, which is the primary source of biomedical research funding throughout the nation. The tragedy of this bill is that not only would it cripple research and retard future progress but these abandoned animals would nevertheless be killed in the pounds. This is an especially grave issue since each animal bred specifically for research costs much more than does a pound animal, a factor which is compounded many times when one considers that the total amount of funding for research has been diminishing in recent years. Were this, or a similar, bill to pass in Congress or in state legislatures, there would clearly be far less research, and a concomitant reduction in new and original contributions to medicine.

Antivivisection has a long background, and from time to time animal rights groups resurface with considerable force and influence, as is currently the situation. Vigorous demonstrations favoring antivivisection have been made at the nation's treasured center of research, the National Institutes of Health in Bethesda, Maryland. Moreover, zealous groups have secretly invaded a number of research laboratories, destroying laboratory equipment and important scientific data.

James B. Duke Professor of Surgery and Chairman, Department of Surgery, Duke University Medical Center, Durham 27710.

The Movement in History

In its strictest definition, the word *vivisection* means "cutting or operating on a living animal." However, in the late 1800s, it acquired a broader meaning and was used to refer to animal experimentation in general. Heavily organized movements began in the 1860s and 1870s in the British Isles, and in 1875 the Victoria Street Society was formed by Frances Power Cobbe, a journalist who wrote about feminist, religious, and philanthropic issues.

The Victoria Street Society became the hub of antivivisection activity, and Cobbe succeeded in convincing Lord Shaftsbury, the eminent and powerful reformer of the day, to become the first president of the society. He was obviously chosen for his social prestige as well as his political power. Later that year, the Royal Commission was formed and charged to "establish the extent of experimentation on living animals taking place in Great Britain, the amount of cruelty that might be taking place in connection with the experimentation, and the best means of preventing such cruelty." The Royal Commission recommended a bill that became known as the Cruelty to Animals Act of 1876, which required that any person performing experiments on living vertebrate animals be licensed, and that this license be renewed annually. The laboratories of these investigators were periodically checked without notice, and *each* experiment had to be individually approved by the Home Office in London prior to being performed. Moreover, the investigator was required to adhere strictly to the protocol, irrespective of the finding of interesting and unexpected results, which, as all investigators recognize, frequently changes the course of true research.

Lord Lister, the father of antisepsis, wrote to the noted Philadelphia surgeon W.W. Keen: "Our law on antivivisection of 1876 should *never* have been passed, and ought now to be repealed." Lister underscored the important role

animal experimentation played in his own research, which led to major contributions in antisepsis and in making surgery safe for the patient. In writing to the *British Medical Journal* in 1897, Lister said: "There are people who do not object to eating a mutton chop, people who do not even object to shooting a pheasant with the considerable chance that it may be only wounded and may have to die after lingering in pain, unable to obtain its proper nutriment, and yet who consider it something monstrous to introduce under the skin of a guinea pig a little inoculation of some microbe to ascertain its action. These seem to me to be most inconsistent views."

The Continuing Need for Animal Research

Physicians, civic leaders, representatives in federal and state government, and the public at large should be familiar with the fact that the vast majority of medical advances of the 20th century have been dependent upon animal research. The major health problems being faced today are no different, and will predictably require the same type of investigation in the experimental animal prior to application in humans. The spectre of poliomyelitis, formerly a dreaded disease, has all but disappeared in the past three decades following the development of the Salk and Sabin vaccines. Both of these vaccines were first administered to monkeys to test their safety as well as efficacy prior to their use in prevention of human poliomyelitis. Moreover, this need for animal use in testing polio vaccine continues today, as is emphasized by Dr. Joseph Bellanti, Director of Georgetown University's Immunology Center: every new batch of vaccines for polio, and for other childhood diseases, must be tested on animals to make certain that the virus has been adequately inactivated, and that it will indeed not transmit active disease to those children who are inoculated. Should the latter occur, it would obviously be a disaster. For every new vaccine produced, live-animal testing provides the answers to a number of vexing problems before the vaccine is used in humans.

Recently, a new genetic-engineered vaccine against hepatitis B has been developed in ovarian cells of the Chinese hamster. This vaccine promises to save the lives of over 2,000,000 humans annually, primarily in third world countries, since the present *human based* vaccine is very expensive, whereas the new one will be only a fraction of that cost and can be widely administered in these deprived nations. Is it conceivable that an intelligent, informed, conscientious public could believe it ethical to give a human such vaccines without previous testing in animals to assure safety?

Much publicity has been given the subject of Alzheimer's disease, and currently much research is being directed toward a better understanding of this disorder as well as means of prevention and treatment. Khachaturian, of the National Institute of Aging, says, "Eight years ago we were at ground zero in understanding Alzheimer's disease. There has been incredible progress in research in this area because our investment in basic research concerns brain functions going back to the 1930s. The bulk of that research involved animals and they hold the key to continued progress." Through studies on primates and other animals, investigators have identified the region of the brain, the nucleus basilis of Meynert, which is the site involved in Alzheimer's disease.

Another major affliction and one with a tragic mortality, the acquired immunodeficiency syndrome (AIDS), is increasing in incidence annually. Currently, encouraging studies are being performed in monkeys and chimpanzees, which provide promising signs for an effective vaccine to be developed against this spreading epidemic. Quite clearly, a vaccine is necessary despite the promising pharmacologic agents currently being evaluated in the *treatment* of this deadly disorder. The first of these drugs, azidothymidine (AZT), has recently been shown to increase the survival of patients with AIDS at the end of the first year of treatment to 50%, as contrasted with randomized control patients receiving placebo who have only a 10% survival rate.

The more than 50 dietary essentials including vitamins and minerals now recognized as necessary to maintain life were determined largely by work on experimental animals. Another major achievement now used throughout the nation lies in the field of dentistry, where fluoridation is a notable example of the application of results of interrelated studies on animals and humans to public improvement. Many research reports have emphasized that fluoridation offers the easiest and most effective method of preventing dental cavities. The adding of fluoride to drinking water is both safe and effective, and strengthens the teeth against the decay-producing effects of acids in the mouth, thus reducing dental cavities by 60% to 70%. Once again, these studies were first done in experimental animals.

The public is also aware of the many achievements in heart surgery, which have been the direct result of the development of the heart-lung machine. Today, nearly all heart conditions requiring surgery can be successfully treated in often dramatic and near miraculous procedures. It should always be remembered that Dr. John H. Gibbon and his wife, Maly Gibbon, spent 22 years working as a close research team on many hundreds of animals to develop this machine before it was safe for human use. Further, every diabetic should realize that the discovery of insulin in the islet cells of the pancreas is another major medical achievement which had its origin solely in animal experimentation and replacement prior to the use of insulin in humans.

Animals also benefit from animal research. Louis Pasteur developed the vaccine against rabies through experiments on rabbits, and the livestock industry in the United States has benefited greatly from research now used to treat animal infectious diseases. In its editorial, the *Wall Street Journal* emphasized that, "After all, humans are not the only beneficiaries of laboratory research. Today millions of pets can

be free of heart disease, leukemia, or kidney failure solely as a result of experiments based on animal research. Some animal-rights activists can't seem to remember that.'' Indeed the chemotherapeutic agents and antibiotics, key agents in the treatment of a variety of infectious diseases, were first studied in experimental animals prior to their appropriate and safe use in humans.

The effect of the antivivisectionists and their ruthless approaches to investigators and research is best summarized by Dr. Frederick Goodwin of the National Institute of Mental Health, who says: ''My people speak more and more of fear and demoralization concerning their research and the necessity to use animals for meaningful and objective experiments. If you stop funding or drive up costs by layers of regulation, nobody on the outside knows it's happening. Research just quietly dies.''

The animal-rights groups in this country have become exceedingly strong and are attempting to eliminate all animal experimentation, which would clearly be a disaster for medical science as it exists today. The director of the Kennedy Center for Bioethics states: ''We have to look at the consequences of giving animals rights — are you ready to say that we are more obligated not to use those dogs than we are to the thousands of human beings in this country who have heart attacks every year?'' The American Heart Association recently issued a special report entitled ''Position of the American Heart Association on Research Animal Use.'' In summary, the report stated: ''Millions of Americans today are healthy, and other millions are alive, because of the advances in the prevention and treatment of heart disease. Death rates from the major forms of heart disease have declined steadily since about mid-century and the decline is continuing. Most recently, between 1972 and 1982, the death toll from cardiovascular disease declined 28%. The decline is largely related to changes in life-style and development of methods of treatment, many of which are based upon animal experimentation.''

To those who are educated and knowledgeable, it is apparent that there are many benefits from appropriate experiments on anesthetized animals since they would otherwise be sacrificed in public pounds. The facts are unmistakable and the reasons self-evident: such experiments are essential to medical progress. Civilization as we know it today, and indeed survival, may be at stake, given, for example, the necessity to control the AIDS crisis. According to the American Humane Society, 7,000,000 pet animals are abandoned to pounds or shelters each year, and of these 5,000,000 are killed there. These animals could be used productively and with professional care in research. The latter is very important and all investigators should be constantly aware of their obligations to conduct experiments with appropriate sensitivity for all animals.[4]

This issue is an exceedingly crucial one, and there is a compelling need for responsible citizens to join in supporting the principle of animal research in the prevention and treatment of disease for the betterment of all humankind. ■

References

1 DeBakey ME. Medicine needs these animals. The Washington Post, Thurs., June 4, 1987, p. A23.

2 Editorial: Science under attack. The Wall Street Journal, June 16, 1987.

3 McCabe K. Who will live, who will die? The Washingtonian, Aug., 1986, p. 113.

4 Cohen C. The case for the use of animals in biomedical research. New Engl J Med 1986;315:865-70.

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Evolution of 911 in Pitt County

Our Story May Help Your County

Vanessa R. Reynolds, M.D., Fredrick L. Potts III, M.D., and William J. Jaffurs, Jr., M.D.

Single emergency telephone number systems give rapid, ready access to emergency services including law enforcement, fire fighting, and medical services. In Pitt County these services are well developed in many respects. The highest national standards are used for training, and life-saving equipment incorporates the latest technology. However, access to these systems remains a significant problem in Pitt County, as it does for many counties in North Carolina.

A 911 emergency telephone number has been a long time coming to Pitt County, and we are still at least two years away from implementation. Several problems have delayed development of this system that are likely shared by other communities in the state. We describe these problems, and in some cases offer solutions.

Background

In 1967 the President's Commission on Law Enforcement and Administration of Justice recommended, "wherever practical, a single (police emergency) number should be established, at least within a metropolitan area and preferably over the entire United States." This statement provided the official impetus for a nationwide emergency telephone number. Further support for this new concept was provided by the Commission on Civil Disorders and the Federal Communication Commission, which urged the telephone industry to provide a three-digit emergency telephone reporting number.[1,2]

These recommendations and the growing public concern over the increase in crimes, accidents, and medical emergencies led to this January 1968 announcement by the American Telephone and Telegraph Company: The three digits 911 were available for installation on a national scale as the single emergency number. The choice of 911 was based primarily on cost factors and on the comparative ease with which existing telephone systems could be modified to accept the numbers. It was thought that this number could be easily dialed and remembered by most persons.[1,2]

The first 911 system was installed in 1968 by an independent telephone company in Haleyville, Alabama, a small community with a population of less than 4,000. Currently hundreds of systems are in operation throughout the country.[1,2] Twelve county-wide 911 systems operate in North Carolina as of January 1985.[3]

A 911 system was first considered in Pitt County in 1979. The idea was initially unpopular.[4] Modifications to the existing telephone system would be expensive, and the telephone company was unprepared to bear the cost. Also, at this time each township radio dispatched their own emergency personnel and vehicles. Perhaps fearing loss of autonomy, townships within the county would not agree to a centralized dispatch mechanism for emergency services.[4] These problems would require careful study for solutions, and 911 entered a latent period in the county.

Elsewhere, in King County, Washington, a study was made of the communities' knowledge of numbers to call in an emergency, comparing three different emergency numbers: 911; a regional seven-digit number; and a local seven-digit number. One thousand one hundred ninety-two people were interviewed. Eighty-five percent of the population knew the correct number to call in 911 areas, versus 47% in regional seven-digit number areas. Only 36% knew the correct number in areas with a local seven-digit number.[5] Currently in Pitt County local seven-digit emergency numbers are used. In a random telephone survey of residents of Pitt County, the authors found that of 139 persons contacted, 67 (48.2%) responded that they would dial the operator. Fifty-six (40.3%) either said they did not know the number or gave the wrong number, while only 16 (11.5%) knew the correct telephone number in their township for reporting emergencies. It is clear that communities like ours without a 911 system have poor awareness of emergency telephone numbers.

In addition to improving access, some 911 systems may

From the Department of Emergency Medicine, Pitt County Memorial Hospital, Greenville, and East Carolina University School of Medicine, Greenville 27858-4354.

reduce the time for emergency services to reach the caller. The metropolitan area of St. Paul, Minnesota was studied to evaluate whether 911 actually reduced the time between beginning the call for assistance and notification of an agency to dispatch appropriate services. The study examined this time interval before and after installation of an enhanced 911 system. Activation of an emergency service in less than one minute was achieved in 63% of the pre-911 calls and in 82% of post-911 calls, thus supporting 911 as a more efficient method of activating emergency services.[6]

A Revival of Interest

In 1984, the Pitt County Association of Rescue Squads revived public interest in 911 as a means of decreasing the response times for their lifesaving service. As a first step, the Pitt County Board of Commissioners approved the purchase of new 911-capable telecommunications equipment to be housed in the County Courthouse. The purchase of this equipment from Carolina Telephone and Telegraph Company was based on recommendations made by Telephone Consultants of Virginia, a private consulting firm. The equipment enabled the county offices to use the North Carolina State Telephone Network (STN). The normal 27.7 cents per minute cost to place direct dialing calls decreased to 12 cents per minute with STN.[4] This is projected to save more than $12,000 yearly on long distance and trunk line charges. Trunkline access is important because trunklines will be used exclusively for 911 when it is implemented. Dedicated trunk lines to each of the ten telephone exchanges in Pitt County should be rented from the telephone company to ensure rapid access and to avoid busy signals which are currently problems with the seven-digit emergency number systems. The trunk lines are estimated to cost $18,000 a year to rent. The maintenance cost of a 911 system was beginning to look more bearable.

In February 1985, the Pitt County Board of commissioners met with mayors and town administrators to propose a county-wide 911 system and discuss establishment of a new centralized communication center at the County Courthouse. Although the concept of 911 was well received, several towns preferred to continue to do their own dispatching. The idea of 911 for individual towns instead of a county-wide system was discussed, but was determined to be infeasible because the telephone exchange boundaries and fire and rescue boundaries did not coincide. It was decided to postpone making recommendations for the system until further study of available options could be conducted.[4]

In 1985 The Pitt County Board of Commissioners appointed various town officials and citizens to a standing committee charged to study how to implement 911 in Pitt County. This 911 Emergency Number Study Committee (ENSC) most recently met in May 1987. They are currently facing several stumbling blocks to 911 implementation.

The first problem involves the use of existing telecommunications equipment by more than one agency. The County Communications Center, which houses the telecommunication equipment, is under the authority of the Sheriff's Department. This equipment currently provides access to the Police Information Network. This Network carries confidential information and is accessible only to law enforcement officers. Operation of a 911 center will require either integrating the two functions of the telecommunications equipment by using law enforcement personnel trained for dispatch, or establishing a second telecommunication center for 911 use. To accomplish the latter the telecommunications equipment must either be moved or new equipment purchased. The ENSC plans to poll counties with existing 911 systems to determine a feasible solution to this problem.

A second problem is that three townships in Pitt County prefer to continue to do their own dispatching rather than subscribe to centralized dispatch for the county. Multiple dispatch systems can only be accommodated by modification of the standard 911 system termed "call transfer," "call relay," or "call referral." These options are discussed in the next section.

Options

The type of 911 system that Pitt County will eventually have is still uncertain. There are four standard operational methods currently in use in the United States: direct dispatch, call transfer, call relay, and call referral.

Direct dispatch: 911 center answers the call, obtains the information and dispatches the appropriate resource to the emergency. This method has a fast response time, but requires cooperation for implementation.

Call transfer: 911 center answers the call, obtains enough information to determine the appropriate response agency, and transfers the call to that agency. The receiving agency takes the complete information from the caller and dispatches the emergency resources. There is minimal need for interagency cooperation with this method, but there is an increased response time, and it is more frustrating for the citizen to use since he or she must repeat the request several times.

Call relay: 911 answers the call, obtains the information, contacts the appropriate response agency, and relays the information to them. The response agency dispatches the emergency resource. This method has fast response time and preserves dispatch autonomy, but requires explicit call-answering protocols be established to gather necessary information from each caller.

Call referral: 911 answers the call, obtains the information to determine the response agency and provides the caller with the seven-digit number to call to reach the agency. This approach prevents 911 overload by non-emergency calls, but requires citizens to dial a second seven-digit number.[7]

Pitt County will most likely have a modified call referral

or call transfer system since some townships continue to do their own dispatching.[8] Both of these options are inefficient and have minimal impact on reducing response times compared to the other options. Fortunately, both options preserve the most important advantage of a 911 system: improved access to emergency services.

Enhanced 911 is another important term in any discussion of emergency telephone number systems. Enhanced 911 provides selective routing of emergency calls, gives a visual display of the caller's phone number, the caller's address and the names of the local police, fire and ambulance agencies for that address.[9] A comprehensive index of telephone numbers and street addresses is necessary for the operation of enhanced 911. Telecommunications equipment is connected to a computer which provides information based on the caller's telephone number. Enhanced 911 systems are considered state-of-the-art because they pinpoint the location of the caller and expedite the dispatch of services.

Problems

We observed the following problems in the process of developing a 911 System for Pitt County.

1. Initial cost. Each of 10 local exchanges requires two direct trunk lines monthly for 911 at an annual cost of approximately $18,000. Installation costs another $2,250.[9] Some of this expense may be offset by savings incurred from the use of the State Telephone Network by County offices. Duplication of the existing telecommunications equipment, if necessary, is expected to cost $200,000.

2. Maintenance costs. The tax base is such that some communities may not be able to afford the initial or maintenance costs. However, when this problem has arisen in other parts of the United States some communities have solved it by adding a fee to citizens' monthly telephone bills. Federal tax dollars to underwrite the cost of 911 telephone systems may soon be available through legislation such as Senate Bill 10, entitled "The Emergency Medical Services and Trauma Care Improvement Act of 1987."[10]

3. Information. County telecommunications equipment has an enhanced 911 capability, but currently there is no comprehensive index of telephone numbers and street addresses. Thirty-three percent of Pitt County residents are listed in the telephone directory by rural postal route or post office box. The exact location of the caller cannot be identified from the telephone number of origin. One can only estimate the general area from which the call is coming. Carolina Telephone estimates that at least five years are needed before we would be able to have this information for each telephone customer. The use of existing tax key maps to help accomplish this task has been proposed.

4. Interagency Cooperation. This is required for dual use of existing telecommunications equipment. The complex issues of police confidentiality and efficient emergency service utilization have been dealt with effectively in other systems using trained dispatchers in a single communications center. The proposed "911 User Advisory Board," composed of representatives from government and public safety agencies, may facilitate interagency cooperation.

5. Fear of loss of autonomy. This problem exists in some townships and public agencies. For example, some towns maintain their own utilities. In case of power failure, residents call police who work with the power company to identify a cause and produce a remedy. The proposal for centralized dispatch sparks fear that towns and agencies may not be able to handle such problems as effectively as before.

Though numerous obstacles still exist to the development of an effective 911 system in Pitt County, progress is being made. When the system is implemented, Pitt County residents will have an improved method for reporting emergencies and summoning assistance. Eventually the 911 system may speed delivery and improve the utilization of our precious emergency service resources. ■

References

1 U.S. Office of Telecommunication, Executive Office of the President. Nine-one-one/ The emergency telephone number: a handbook for community planning. Washington, D.C.: U.S. Government Printing Office, 1973.

2 Rodger L. Leadership Institute study on 911. Available from the Pitt County Chamber of Commerce (undated).

3 Planning for 911. Pitt County Publication 1987; available from the Office of the Fire Marshall.

4 Newspaper articles regarding 911: *Ayden News Leader*,February 1985; *Daily Reflector*, February 1985; *Daily Reflector*, January 1985.

5 Eisenberg M, Hallostrom A, Becker L. Community awareness of emergency telephone numbers. Am J Public Health 1981;71:1058-60.

6 Mayron R, Long R, Ruiz E. The 911 emergency telephone number: impact of emergency medical systems access in a metropolitan area. Am J Emerg Med 1984;2:491-3.

7 Emergency telephone Service — Pitt/Greenville. Pitt County Chamber of Commerce study, (undated).

8 Personal communication, Pitt County Fire Marshall and Emergency Planning Coordinator.

9 Personal communication, Centralized Operation Group Manager of Carolina Telephone, Tarboro, North Carolina.

10 Cranston/Kennedy Bill would improve EMS. EMS Management Advisor 1987;3:1-2.

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ACE

AIDS: Discrimination and Justice

John R. Dykers, Jr., M.D., F.A.A.F.P.

This article was reviewed by two experts in infectious diseases. They recommended that the Journal not accept the paper. I elected to publish the paper. Our readership has not used the Journal to discuss the implications to our social structure of the most serious disease that has occurred in our lifetime. I hope this paper — provocative as it is — will stimulate our doctors to tell us what they are thinking and how they intend to handle the medical, ethical, and social problems created by this epidemic. — The Editor

Our society has not yet arrived at a balanced and widely acceptable contract between those persons who are HIV-positive and those who are HIV-negative. The AMA House of Delegates struggled mightily with this dilemma and developed comprehensive recommendations,[1] a summary of which was published in the September issue of the *North Carolina Medical Journal* (1987;48:433-8). These recommendations provide leadership for sluggish bureaucracies and legislatures, but they fall short of probing the poignant areas of conflicting rights and of resolving the complex issues of discrimination and justice.

It is easy to understand the difficulty of deriving a balanced societal contract: AIDS is a terrible disease; we are helpless to treat successfully the disease or the virus; unjust discrimination arising from sexual taboos is prevalant, and our knowledge about virus transmission is incomplete.[2]

In order to propose a societal contract, one must first make some basic assumptions that are quite open to challenge:

A Fear of becoming HIV-positive is rational because knowledge about the transmission of the virus is primarily epidemiologic and derived from notoriously unreliable sexual histories. But such fear alone is not sufficient reason for quarantine or other irrational reactions that will worsen the consequences of our epidemic.

From P.O. Box 565, Siler City 27344

B Knowing one's negative HIV status and bearing the responsibility for maintaining that negative status is as important as knowing one's positive HIV status. Behavior that transmits the virus requires the interaction of both an HIV-negative and an HIV-positive person. Society has the right to expect HIV-negative persons to change their behavior on the basis of their own self-interest in maintaining their negative status rather than bear the horrible consequences.

C AIDS itself is so terrible that the negative social consequences of being HIV positive should be minimized as much as possible consistent with the health and safety of HIV-negative persons. Changes in behavior by HIV-positive persons are totally altruistic. Many HIV-positive persons will change their behavior based on strong altruistic motivations, but many will not.

D The confidentiality that the physician grants to the patient is non-judgmental and a highly practical matter necessary to allow the free flow of information required for a successful outcome of the physician-patient interaction, an outcome that is presumed to be better health, including the public health. Physician-to-patient confidentiality carries a legitimate price: the patient trusts the physician with information because he or she also trusts the physician's considered judgment of his or her broader societal responsibilities.

E Safe sex is a relative term,[3] and there is no acceptable level of risk for sexual transmission of HIV, a virus that

presumably remains for a lifetime and is ultimately fatal. For maximum efficacy, rational counseling begins with knowledge of HIV status and includes both starting and stopping of risk-reduction practices.[4] Any encounter is safer if it occurs between two people tested negative by current technology than the same encounter between two people of unknown HIV status. (See "analysis" below).

F The right not to know one's HIV status is a right we can no longer afford, but if we require that persons give up that right, we must grant reasonable and rational protection to those who are positive.

Accepting these assumptions, one may propose the following societal contract:

1 A federally financed program should provide health care for persons with AIDS, including counseling, acute hospital care, home health care and hospice care. The only criterion for qualifying for this program should be a positive HIV status.

2 Federal legislation, state legislation, local ordinance and judicial decision should forbid irrational discrimination in ordinary social settings, employment, housing, recreation and education.

3 Special work places dealing with blood and body fluids require special behavior and legislation. Patients and health care providers should, if asked, be required to tell one another their current HIV status, including the date that status was determined. Providing health care to HIV-positive persons and receiving health care from HIV-positive care givers should be done only knowingly and voluntarily. Then, and only then, does following the prescribed Centers for Disease Control guidelines for such care become appropriate.

Those persons engaged in prostitution, either as buyers or sellers, should be guilty of a felony if either solicits the other without the knowledge of the HIV status of both parties.

4 Voluntary testing for HIV status should be encouraged in every form. Private physicians should encourage potentially exposed patients to know their HIV status and to be retested should their exposure to sexual partners or blood products suggest the possibility that their status might have changed.

All persons considering conception should know their HIV status, and those testing positive should be required to take steps to prevent pregnancy or else forfeit their rights to publicly financed care. (One might well argue that it should be a misdemeanor to become pregnant without first determining one's HIV status or that it might be a felony to become or remain pregnant if one has a known positive HIV status.)[5,6]

It should be the standard of care that anyone who has any sexually transmitted disease or uses IV drugs should be tested for HIV status. Sports, camp, and school physicals should require HIV tests for those who are sexually mature, such maturity requiring physician judgment.

5 Mandatory test groups are not selected only by "high risk" behavior patterns, but by new intimacy. Mandatory testing should be required of all persons who are donating tissue, blood, semen, ova or organs; and of all persons seeking a marriage license, diagnosed pregnant, entering a hospital or prison, exiting a hospital or prison if this occurs greater than six months after entry, entering or leaving the military service, or participating in any drug rehabilitation program or sexually transmitted disease clinic.

International travelers should have an HIV test, the results of which should be recorded on the passport. Immigrants into this country are properly required to be HIV-negative at the time of entry and again six months later, and seroconversion within that six months should be grounds for deportation.

All persons mandatorily tested should be instructed about safe-sex and risk-reduction practices,[3] including the possibility that persons tested HIV-negative may yet carry the virus. Whatever circumstances require mandatory testing of HIV status, a previously determined HIV status should be considered valid for no more than six months. Once tested positive, repeat testing should not be required.

6 All persons of known positive HIV status should be required to refrain from donating blood, semen, ova, tissue, or organs, and to inform any sexual partner or other person at risk of exposure to body fluids of that positive HIV status prior to sexual contact or other exposure. Failure to do so should be a felony. Then, and only then, do the recommended safe-sex and risk-reduction practices become ethically applicable. No one should knowingly have vaginal or anal intercourse with an HIV-positive person without first determining one's own HIV status and receiving professional counseling: failure to take such steps prior to such a sexual encounter should be a misdemeanor punishable by requiring mandatory HIV testing every six months for a minimum of two years. This is essentially unenforceable, but should be codified to define the societal expectation.

7 A spouse should have the right to require serotesting of the other spouse every six months. Refusal to be tested should be grounds for divorce, or alternatively a spouse should have the right to deny consortium to an untested spouse. Seroconversion that creates a discordant couple should be grounds for divorce. (Seroconversion that creates a concordant couple should not be grounds for divorce).

8 Determination of HIV status should be an accepted part of all applications for both health insurance and life insurance. There should be no requirement that either health or life insurance be sold to persons who are HIV-positive. This presupposes federal enactment of a comprehensive AIDS-care-financing program.

9 Falsifying documentation of HIV status should be a felony.

If we do not have the courage to act as though the prevalence of HIV were high, it will be. If we are going to survive the epidemic of HIV, those persons who test positive and those who test negative must respond to one another compassionately. We may not attain this goal, but we must strive for it.

It is to be hoped that our experimental models and precise knowledge about transmission, prevention and therapy will improve, fear will lessen and our contract will change. Meanwhile, following the contract outlined above, HIV-positive and HIV-negative persons can live without undue disruption or endangerment of one another. We must carry the presupposition that we are civilized sufficiently to care for those who are infected and to protect those who are not.

Analysis

A major difficulty arises in estimating the frequency with which persons tested HIV-negative by current technology will actually be carrying the virus and be capable of transmitting it. In August 1986 the rate of HIV-positives among Red Cross blood donors was 1.1 per 1,000.[7] According to Dr. Steven Kleinman and Dr. John A. Ward at the Third International Conference on AIDS and the National Institutes of Health Concensus Conference, the risk of HIV infection from a seronegative unit of blood is somewhere between one in 36,000 and one in 100,000. This then is *approximately* the range of the risk of a person's being in the "window" if the person is part of a population where the rate of HIV-positives is one in 1,000. If the rate is one in 10 (as it is at North Carolina Health Department test sites), then the risk of being in the "window" is probably between one in 360 and one in 1,000. Other than laboratory errors, false positives (ELISA plus Western Blot, repeated) are essentially undefinable because of the possibly prolonged phase from initial viremia to clinical disease and the unreliability of virus isolation. These difficulties may be lessened by use of HIV-Ag EIA.[8]

It is equally difficult to accurately evaluate counseling condom use in preventing transmission of HIV. A 17% conversion rate has been observed[3] in discordant heterosexual couples who have been properly counseled and who were considered to be highly motivated. Failure to use a condom occurs in 37.5%[9] of such couples, and one may anticipate that the conversion rate eventually will at least approach one-third. Even assuming total compliance with condom use, the rate of condom failure is almost certainly higher than the rate of false-negatives and can reasonably be calculated at 1% as a minimum.

However, there is no acceptable risk level for sexual transmission of HIV. If the rate of HIV prevalence in any given population is one in 1,000, then that represents the maximum risk rate for the transmission of HIV between any two persons of unknown HIV status engaging in a single unprotected sexual encounter. If these persons use a condom we assume that risk to have been reduced a hundredfold to one in 100,000. If those two persons are tested negative for HIV, then we assume that risk of transmission to be reduced to one in 5 million. If those two persons both test negative for HIV and use a condom then that risk should be reduced to one in 5 billion. If they continue to maintain a monogamous relationship for six months and avoid other sources of contamination and are again tested negative, their chances thereafter of transmitting the virus between themselves so long as they maintain that status should be close enough to zero for it to be acceptable that they might abandon the use of the condom and engage in either vaginal or anal intercourse as they might wish, and even conceive a child. ■

References

1 Goldsmith MF. AMA House of Delegates adopts comprehensive measures on AIDS. JAMA 1987;258:425-6.

2 Francis DP, and Chin J. The prevention of acquired immunodeficiency syndrome in the United States. JAMA 1987;257:1357-66.

3 Goedert JJ. What is safe sex? N Engl J Med 1987;316:1339-42.

4 Remis MD, Robert S. When may a couple stop using condoms? JAMA 1987;257:2289.

5 Hecht, F. Counseling the HIV-positive woman regarding pregnancy. JAMA 1987;257:3361.

6 Grimes DA. The CDC and abortion on HIV-positive women. JAMA 1987;258:1176.

7 Lennox JL, Redfield RR, Burke DS. Walter Reed Army Institute of Research: HIV antibody screening in a general hospital population. JAMA 1987;257:2914.

8 Kessler, Blaauw, Spear, et al. Diagnosis of HIV infection in seronegative homosexuals presenting with an acute viral syndrome. JAMA 1987;258:1196-9.

9 Fischl, MA, Dickinson, GM, Scott GB, et al. Evaluation of heterosexual partners, children and household contacts of adults with AIDS. JAMA 1987;257:640-4.

Medical Origins of Duke University?

Edward C. Halperin, M.D.

A recent letter to the editor of the *Southern Medical Journal* by Dr. H.I. Newbold, a medical nutritionist and widely published author,[1] proposes a bold hypothesis to explain the origin of Duke University.[2] The biographies of James B. Duke (figure 1) indicate that he died in 1925 of pernicious anemia. Dr. Newbold reports that "as a student at Duke University, I recall having come across books in the reference room of the University Library that were from James B. Duke's personal library. He had made notes in the margins of many of the books, and it was obvious from reading the notes that James Duke was in fact depressed." Dr. Newbold argues that the depression may have been the result of pernicious anemia. He then concludes that it is well known that depressed individuals feel guilty and often try to lessen their guilt by giving things away. "In all probability James B. Duke left the money to found Duke University in an attempt to lessen his depression . . . [had Duke been treated for pernicious anemia] the man not only would have lived but in all probability would have lost his depression and might not have left the money to found Duke University."

There is nothing the medical historian likes more than a good puzzle to solve. Dr. Newbold's hypothesis calls for detective work and a careful evaluation. Does Duke University owe its existence to pernicious anemia? To answer this question we must first answer three others.

1 Did James B. Duke have pernicious anemia?

Biographies of James B. Duke report that he suffered from pernicious anemia and that this condition contributed to his death in 1925.[3-6] In 1926, Drs. George R. Minot and W.P. Murphy of Boston reported the successful treatment of pernicious anemia by a diet rich in liver.[7,8] For this work, Minot and Murphy shared the 1934 Nobel Prize in medicine with Dr. G.H. Whipple.[9] The conventional wisdom, repeated by Dr. Newbold, is that Duke died around the time of the discovery of a successful treatment for his disease.

Division of Radiation Oncology, Department of Radiology, Box 3085, Duke University Medical Center, Durham 27710. Dr. Halperin is a recipient of an American Cancer Society Clinical Oncology Career Development Award.

The conventional wisdom may be wrong. On March 17, 1945, Dr. Fredric M. Hanes, chairman of the Department of Medicine at Duke University, wrote to Dr. Minot:[10]

> "We were discussing the other day the cause of death in the case of Mr. James Buchannan Duke. Someone mentioned that he died from pernicious anemia and Dr. Davison [Dean of the Medical School] said that he didn't believe you thought so. I am writing to ask if you would be good enough to give me a note on this, telling us so far as you can what type of anemia Mr. Duke suffered from."

On March 21, 1945, Dr. Minot responded to Hanes's inquiry:

> "Although I never saw Mr. James Buchannan Duke myself, I did see his blood in August, 1925 and reported to Dr. Edwin A. Locke, my associate, about it. I understand that Mr. Duke died in October of that year.



Figure 1. James Buchanan Duke (Photograph courtesy of the Duke University Archives)

I do not believe that he died of pernicious anemia. I think Mr. Duke suffered from one of those fundamental disorders of blood formation that have been commonly called aregenatory anemias, conditions that sometimes have been called aplastic anemia but not with an anatomical aplasia of the marrow so that it was fatty but where the marrow was red but inactive.

At the time I saw the blood I thought he might have had a so-called aleukemic leukemia. I think today most of the cases called aleukemic leukemia when there is a severe anemia that has developed over months are apt to be so-called aregenatory anemia which has been discussed by Rhoads of New York. Mr. Duke apparently never had any tongue symptoms and never had any evidence whatsoever of combined system disease, a most unusual event for a man with severe anemia of the pernicious sort at his age. He showed no changes in bone conduction and there was no persistent paresthesia at all. As I understand the record, he was only sick in all about eight or nine months and that is an unusually short course for a pernicious anemia and it is very unusual to have had no improvement.

It might interest you to know that he had broiled liver daily recommended to him (by myself via a letter to Locke) and that would have been about eight months before I read my report at the Association of Physicians. Although he did not have anything like the amount of liver that one would give a patient today, he did have enough liver to have permitted at least some response and he had no response at all.

. . . It is interesting to note that I advised that he have generous amounts of fresh strawberries even if he had to buy them from the Ever-Bearing strawberry farms. I mention that because I used to think that pernicious anemia patients should eat liberally of strawberries because I thought they were helpful, the reason being because strawberries could help people with sprue. At all events, I do remember having Dr. Locke tell me that the patient enjoyed his strawberries.

I also want to emphasize that I think it is very unusual for patients with pernicious anemia to go straight on down hill to death in a course of eight months and that alone would make me mighty suspicious that the patient did not have pernicious anemia, and my blood observations did not distinctly suggest that disease to me.''[11]

Dr. Edwin Allen Locke, referred to in Minot's letter, was born in 1874. He graduated from Harvard Medical School in 1901. Dr. Locke practiced Internal Medicine at his Beacon Street office in Boston and was a Clinical Professor of Medicine at Harvard.[12] Minot also mentions ''Rhoads of New York.'' This was undoubtably Cornelius Packard ''Dusty'' Rhoads. Dr. Rhoads was born in 1898 and educated at Bowdoin College and Harvard Medical School. In 1940 Rhoads succeeded James Ewing as Director of Memorial Hospital in New York. He was instrumental in the establishment of the Sloan-Kettering Institute in 1948. Rhoads conducted research on the nature, toxicity, and protection against poisonous gases during World War II. In 1950 Rhoads published his classic paper on the treatment of neoplastic diseases with nitrogen mustard.[13,14]

The term ''aregenatory anemia'' referred to an anemia resulting from a failure of red cell production as opposed to a hemolytic anemia or a blood loss anemia. Aregenatory anemia was a general term which could have been used to encompass aplastic anemia, pernicious anemia, pyridoxine-deficiency anemia, myelodysplastic syndromes, or an early leukemia. Minot clearly was disinclined to diagnose pernicious anemia in Mr. Duke's case. Since Minot, who won the Nobel Prize for his work in pernicious anemia, discounted the diagnosis in Mr. Duke's case, serious doubt must be cast upon any hypothesis of Duke's actions based upon this diagnosis.

2 Was Duke depressed?

Depression is a mental state characterized by dejection, lack of hope, and absence of cheerfulness.[15] The last year of Mr. Duke's life was characterized by his usual industriousness and energy. In March of 1925 James B. Duke, Trinity College President William Preston Few, and their associates met in Durham to plan the development of Duke University. Dr. Watson Rankin, state public health officer for North Carolina, recalled inspecting the land for the new university with Mr. Duke.

> ''We walked all over those grounds, jumping ditches and crossing wagon roads and going through shrubbery and all that kind of thing, with Mr. Duke always in the lead. Again I was impressed with the man's vigor.''[16]

Duke participated actively in planning and construction of the new university, including such details as landscaping and the selection of the stone to be used in the construction of the buildings.[5] In July 1925 Duke traveled to Canada by rail to inspect a power station. Traveling companion Roy Hunt, later to become president of the Alcoa aluminum company, reported Duke to be a ''soft-spoken . . . courteous Southern gentleman . . . very friendly and very keen.''[17] These two eyewitness accounts from 1925 give little credence to the assertion that Duke, who died in October, was depressed.

There are no records in the Duke University Library indicating that the University ever possessed, or now possesses, any of Mr. Duke's books. This is confirmed by the Duke University Archivist[18] and the Assistant Curator of the Manuscript department.[19] It is doubtful that James B. Duke ever possessed any significant personal library. He was devoted to his business and non-business reading was not one of his pastimes. Dr. Newbold's assertion that margin

notes in Duke's books indicated depression cannot be independently verified.

3 Did James B. Duke engage in philanthrophy to lessen feelings of guilt and depression?

Washington Duke and his son Benjamin Duke first became involved with Trinity College in the late 19th century. In 1887 Benjamin Duke gave the nearly bankrupt institution $1000. Washington Duke personally guaranteed $50,000 toward Trinity's endowment in 1890. This helped ensure the institution's move from Randolph County, North Carolina, to Durham.[4] James B. Duke made his first major donation to Trinity College in 1900 — a new library.[20] Over the following years, the Duke family made many donations of time and money to Trinity College. The donations of James B. Duke eventually surpassed those of his father and brother but they clearly continued a family tradition of support to Trinity College — recognized, in part, by changing the name of the expanded school to Duke University.

Washington Duke and his sons supported many worthy causes with charitable donations. These included institutions of higher learning in North and South Carolina, orphanages, the Methodist Church, and hospitals.[4] In this context, James Duke's donation to found Duke University was not the isolated act of a depressed individual but rather the continuation of a family tradition of philanthropy.[4,5]

Conclusion

The historical record does not substantiate the hypothesis that depression related to pernicious anemia played any role in the founding of Duke University. The opinion of Dr. Minot makes it unlikely that Mr. Duke suffered from pernicious anemia. There is no verifiable evidence that Mr. Duke was depressed and considerable evidence to the contrary. Duke University owes its founding to long established intentions of James B. Duke and his family. ■

Acknowledgments

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References

1 Newbold HL. Vitamin C against cancer. New York: Stein and Day, 1979.
2 Newbold HL. Medical Origins of Duke University. Southern Med J 1987;80:799.
3 Winkler JK. Tobacco tycoon: the story of James Buchannan Duke. New York: Random House, 1942.
4 Durden RF. The Dukes of Durham, 1865-1929. Durham: Duke University Press,1975.
5 Dunwell S, Durden RF. Duke: a portrait. Durham: Duke University Press, 1983.
6 Jenkins JW. James B. Duke: master builder. New York: George H. Daron Company, 1927.
7 Minot GR, Murphy WP. Treatment of pernicious anemia by a special diet. JAMA 1926;87:470-6.
8 Minot GR, Murphy WP. A diet rich in liver in the treatment of pernicious anemia: study of 105 cases. JAMA 1927;89:759-66.
9 Walton J, Beason TB, Scott RB, eds. The Oxford Companion to Medicine. Oxford: Oxford University Press, 1986, p. 794.
10 The Fredrick M. Hanes and Wilburt C. Davison papers. Archives, Duke University School of Medicine, Durham, North Carolina.
11 Letter from George R. Minot to Fredric M. Hanes, March 21, 1945. Archives, Duke University Medical Center, Durham, North Carolina.
12 American Medical Directory 1925, Ninth edition. Chicago: American Medical Association, 1925.
13 Wintrobe MA. Hematology, the blossoming of a science. Philadelphia: Lea & Febiger, 1986, pp. 514-5, 519.
14 Rhoads CP, Karnofsky DA, Burchenal JH, Crarer LF. Triethylene melamine in the treatment of Hodgkin's disease and allied neoplasms. Trans Ass Amer Phys 1950;63:136-46.
15 Friel JP, ed. Dorland's Illustrated Medical Dictionary, 26th edition. Philadelphia, WB Saunders, 1981, p. 110.
16 Frank Rounds, Jr., interview with Dr. Rankin. Oral History project of Columbia University, pp. 57-8. Transcript in possession of the Manuscript Department, Duke University Library, Durham, North Carolina.
17 Frank Rounds, Jr., interview with Roy Hunt. Oral History project of Columbia University. Transcript in possession of the Manuscript Department, Duke University Library, Durham, North Carolina.
18 Personal communication from W. King, Ph.D., University Archivist, Duke University.
19 Personal communication from Ms. E.G. Gartrell, Assistant Curator of the Manuscript Collection, Duke University Library.
20 Porter EW. Trinity and Duke, 1892-1924: foundations of Duke University. Durham: Duke University Press, 1964.

Heberden's Nodes:



Bony enlargements that form on the dorsomedial and dorsolateral aspects of the distal interphalangeal joints. Occurring with osteoarthritis, they develop slowly over the course of years and usually do not appear before age 40. Although usually asymptomatic, the accompanying arthritis may produce varying disabilities including pain and limitation of joint mobility.

William Heberden was born in London in August, 1710. One of six children, he was headed for a career as a merchant after grammar school due to "the somewhat straitened circumstances" of his family. At age seven, the same year his father died, he entered the Southwark Grammar School, where he displayed such talent in the classics that by age 14 he was able to enter St. John's College in Cambridge. He completed his studies for a Bachelor's degree and then a Master's degree in Arts by age 22, meanwhile beginning his study of medicine at age 20. Heberden worked nine years in Cambridge and London as a Fellow of Cambridge University, receiving the Doctor's degree in Medicine at age 29. In his medical practice, Heberden began his lifelong habit of keeping copious and detailed notes, made at the bedsides of his patients. Each month he carefully reviewed his observations and added to them. These notes were published after his death by his son as the now famous "Commentaries on the History and Cure of Diseases."

Heberden's annual course of lectures on materia medica included discussions on the many common herbs, spices and vegetables in medicinal use. His knowledge of these plants led him to write "Antitheriaca: an Essay on Mithradatium and Theriaca." This concoction — 20 leaves of rue, one grain of salt and two dried figs — was believed to be the universal antidote to poison. Heberden pointed out that none of the poisons known in 100 B.C. (hemlock, monkshood and the venom of poisonous animals) would have been overpowered by salted figs and rue leaves and that Mithradatium and Theriaca was worthless as an antidote. Despite this argument, the recipe remained registered in the Pharmacopoeia of the Royal College of Physicians for another 50 years.

By 1752, at the age of 42, Heberden had obtained a grant of arms, and felt himself to be sufficiently established in his station to take a wife. Elizabeth Martin was 24 at that time and bore two sons before her untimely death two years later. Six years later, Heberden married Mary Wollaston. Together they had eight children. One, Dr. William Heberden, Jr., followed in his father's footsteps except that he took his medical degree from Oxford at age 28.

Heberden's reputation continued to grow. In 1761, George III (who "lost" the American colonies) wished to appoint Heberden as Physician to Queen Charlotte. This honor Heberden declined, saying "it might interfere with those connections of life" he had formed. One such connection had been formed when Heberden joined Benjamin Franklin's crusade against small-pox. Franklin, whose son Francis had died of the disease, devoted himself to the cause of small-pox inoculation. Heberden had established the difference between small-pox and chicken-pox; Franklin contacted him for help. In his usual selfless manner, Heberden wrote and paid for the printing and distribution of an anonymous pamphlet of instructions for inoculation. But Franklin wrote a pamphlet to accompany Heberden's giving full credit where it was due.

Elected a fellow in the Royal College of Physicians in 1746, Heberden urged his fellow members to rely on their own clinical observations and on study of the works of Bacon, Harvey and Newton rather than on the dogmatic teachings of the ancients, Hippocrates and Galen. In 1766 Heberden founded the Medical Transactions of the Royal College of Physicians. These Transactions were based on papers read to and discussed by the College, and as such became one of the earliest medical journals. Only three volumes of these Transactions were printed, to which Heberden contributed 16 papers. One of the most notable, "Some Account of a Disorder of the Breast," was presented July 21, 1768, and is the first known description of angina pectoris to a medical group.

In 1782 at age 73, Heberden went into retirement. That same year it is believed that he finished his "Commentaries." Included in this work is a brief chapter on "Nodi Digitorum," in which he asks:

"What are those hard little knobs, about the size of a small pea, which are frequently seen upon the fingers, particularly a little below the tip, near the joint? They have no connexion with the gout, being formed in persons who never had it; they continue for life; and being hardly ever attended with pain or dispose to become sores, are rather unsightly, than inconvenient, though they must be some little hindrance to the free use of the fingers." ■

Carol Essom-Sherrier and Francis A. Neelon, M.D.
Duke University Medical Center, Durham 27710.

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Letters to the Editor

Dr. Wallenborn gives us a look at the past

To the Editor:

This is a picture taken around 1910 of the North Carolina Board of Medical Examiners. It was taken at the Biltmore Estate in Asheville, and my mother identifies the physicians as follows (from left to right: Dr. Hayes from Oxford, NC; Dr. W. White McKenzie from Salisbury, NC; Dr. Bynum from Winston-Salem, NC; Dr. L.B. McBrayer from Asheville, NC; Dr. Dotson from Greensboro, NC; and Dr. Rodman from Washington, NC. Dr. W. White McKenzie was my grandfather and his great grandson now practices otolaryngology/head and neck surgery in Asheville. NC: Peter A. Wallenborn III, M.D.

I made this copy from the original which is in amazingly good condition.

One of my very dear friends, and fellow photographer and skier, is Dr. Charles E. Harrison, Jr., who was one of your residents. At one time I had been a resident in Internal Medicine under Drs. Burnett and Welt at Chapel Hill, and we used to have joint conferences with your department. Needless to say, I remember them well.

I hope you will enjoy looking at the picture.

White McK. Wallenborn, M.D.
1000 East High Street-Suite A
Charlottesville, VA 22901-4882



The North Carolina Board of Medical Examiners, 1910 (courtesy Dr. Wallenborn).

On delayed reactions to buried silk sutures

To the Editor:

In the past, buried silk sutures were a mainstay of neurosurgery. Historically, Kocher began using silk sutures because of the high infection rate he experienced with catgut. Halsted then adopted silk as a suture and established some basic principles for its surgical use. Subsequently, Cushing premiered the use of silk in neurosurgery.

More recently, much has been written concerning the problems associated with silk suture use. Postlethwait pub-

lished several papers detailing the tissue reaction seen as a response to silk.[1] In addition, J.E. Dunphy's group studied the relationship between silk and postoperative wound infections.[2]

Following the implantation of silk, a range of types of tissue reactions can be seen. Initially, there is an acute reaction, followed by deposition of fiborus tissue around the suture. usually, this fibrous tissue encapusulation surrounds a granulomatous type reaction consisting of histiocytes, fibroblasts, giant cells, and lymphocytes. The amount of cellular invasion between the silk fibers varies and seems to increase with time. This response is usually not clinically apparent and does not interfere with successful wound healing. When an amplified response occurs, it generally presents as a draining tract or superficial area of inflammation along the suture line during the immediate post operative period. Delayed reactions are less common, but can occur years afterthe initial placement of the silk suture.

The use of silk, especially for approximating subcutaneous tissues has declined over the past several years in favor of absorbable synthetic polymers with equal or better tensile strength and knot stability.[3] With the increasing use of the absorbable synthetic polymers, the foreign body reactions seen with the use of silk will become more rare. However, since these modern suture materials have been developed only recently, there are many patients today who have been closed with silk.

In spite of the large body of patients bearing indwelling silk sutures, recently trained individuals may not be aware of the many properties of silk. Foreign body reaction to silk sutures should be included in the differential diagnosis of patients who present with wound breakdown or apparent wound infection. Because the reaction to silk is an ongoing phenomenon, the correct diagnosis is important so that removal of all silk sutures can be performed. As mentioned earlier, these reactions can occur years after the initial placement of the silk sutures.

Eugene Rossitch, Jr., M.D.
Division of Neurosurgery
Box 3807, Duke Medical Center
Durham 27710

References

1 Postlethwait RW. Tissue reaction to surgical sutures. In Repair and Regeneration. Dunphy JE and Van Winkle W, Jr. New York, McGraw-Hill, Inc., 1969, pp. 263-85.

2 Cutler EC, and Dunphy JE. Postoperative wound infections and the use of silk: an experimental study. Surgery 1937;1:379.

3 Von Fraunhofer JA, Storey RS, Stone IK, Masterson BJ. Tensile strength of suture materials. J Biomed Materials Res 1985;19:595.

On the first "Names and Faces of Medicine"

To Doctors Lurie and Neelon:

Your article concerning Baron Guillaume Dupuytren (48:452) was very interesting. He was a giant in his time and a great surgeon. However, one of the salient points of his surgical teachings has been overlooked or by purpose. It was he to whom the honor goes of first being allowed to deny the entity of appendicitis. When one of his students brought this up as a possibility of an entity, he was so vehemently censored that the poor student from that day on assumed anonymity in the medical field. It was some years later before the entity of appendicitis was recognized in the medical profession. It was due to this point that one of our professors used to say that "As students you have to remember that some day you might have to go giant killing." I merely point this out to recognize the fact and bring to the forefront the point that regardless of how great a person is, he is still only human.

Thank you.

M.R. Barnes, M.D.
Crist Clinic For Women
200 Memorial Dr.
Jacksonville, NC 28540

Some thoughts on Medical Review of North Carolina

To the Editor:

I am enclosing a letter I have written to Dr. Ralph Snyder of the Medical Review of North Carolina over a particular judgment rendered by this peer review organization operating under guidelines and contract from the federal Health Care Financing Administration.

Prior articles and letters have appeared in the *Journal* describing, discussing, castigating, and defending this operation.

The goals of "cost containment" review for appropriate hospitalization, documentation of quality and outcome and identification of "poor" practitioners are commendable. Of course any "system" has its weaknesses and "protocols" and "guidelines" are based on labels, diagnoses, averages, intervals, and other statistical tools and are bound to be imperfect — just as on line clinical judgment is.

A question that comes to my mind is whether the quality/peer review idea is being driven by any motivation other than "cost containment" and whether the costs contained are matched by the costs engendered by this operation. It is very difficult as a non-accountant to understand what is being "saved." Maybe you can stimulate a regular "accounting" by this group with their "attack rate" or cases "denied," "appealed," "sustained" and the cost of doing such business with the perceived "savings." The current system with "denials" impacting our hospitals, which are doing so extremely well on the DRG system, seems to be a nuisance for the physician. Does it do anything else?

Meanwhile I am collecting some interesting "war stories" of MRNC activities, as experienced by other on line physicians. I would be pleased to receive communications describing these interactions. This archive will be interesting to a future historian describing the evolution of the system of health care in this country. This collection will not be shredded.

Perhaps our profession can find leaders who will help our

society work out its health and sickness care delivery in a more effective, humane and economic way.

James A. Bryan II, M.D.
University of North Carolina
Department of Medicine
Division of General Medicine and Clinical Epidemiology
Old Clinic Building 226 H
Chapel Hill 27514

Dr. Bryan's letter to Dr. Snyder at MRNC:

Your "personal and confidential" letter, written in classic bureaucratese, has arrived informing me that "quality issues" involved have earned a "Severity Level Index of 4,"* and that reimbursement for one of the subsequent hospitalizations for the patient will be denied.

Whether my hospital wants to "appeal" is up to them. I would certainly be willing to "appeal" but have no zeal in arguing with your organization on what is seen through the retrospectoscope. The purported "premature discharge" of a steroid-dependent COPD patient with severe pain problems from her osteopenia was a clinical judgment arrived at between me and her primary pulmonologist. Even though the patient did return within a short time, the possibility that she might do so had been taken into account. This lady, fighting for time at home and with an available and responsive primary lung physician, indeed bounced back because of the agreed upon pain control maneuvers.

Medicine continues to be individual and empiric — I wish clinical judgment were perfect. As far as I am concerned you can remove the personal and confidential designation from any future correspondence as I will probably attempt to make them public.

*Whatever that means — you inform me that "Copies of MRNC's Quality of Care Review and Sanction Protocols have been provided to your hospital. We urge you to familiarize yourself with these procedures." Your protocols don't interest me.

James A. Bryan II, M.D.

In appreciation of our special issue on breast cancer

To the Managing Editor:

On behalf of the American Cancer Society, North Carolina Division, I am writing this letter to thank you and Dr. Stead for encouraging the development of the October issue of the North Carolina Medical Journal (48[10]) on breast cancer.

We sincerely appreciate the contributions of the professionals who submitted articles and Dr. Robert Sandler who served as guest editor.

As you mentioned, Dr. Sandler is the chairman of the North Carolina Division's Professional Education Committee and the chairman of our three-year Task Force on Breast Cancer Detection Awareness.

As part of the BCDA program, a speaker's bureau has been established and includes the names of more than 40 professionals who are available to speak at no charge, at county medical societies, AHEC's and other organizations. Anyone who is interested should contact me at our Raleigh office.

Also, the October issue was utilized immediately to provide background and reference material following Nancy Reagan's recent breast surgery. It provided information for the news media. Reprints of the articles will be distributed by us to professionals and participants in many of our medical conferences.

The service that this issue has performed for the community may seem intangible to many in the short term. We are sure, however, that the long-range benefit to breast cancer patients in North Carolina will only mean better patient care because physicians will be better informed on breast cancer diagnosis and treatment.

John R. Postiglione
Director of Programs
American Cancer Society, N.C. Division, Inc.
11 S. Boylan Avenue, Suite 221
Raleigh 27611

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In acute and chronic edema due to CHF

FOR PREDICTABLE CONTROL

- **Less potassium loss for a given amount of sodium excretion than with furosemide[1-3]**
- **Predictable dose response[4]**
- **Diuresis completed hours faster than with furosemide after oral dosing[5]**
- **Better GI absorption[6,7]**
- **Early evening dosing helps prevent nocturnal dyspnea**



As with all loop diuretics, excessive doses of BUMEX can lead to profound diuresis with water and electrolyte depletion, including hypokalemia, so serum electrolytes should be monitored.



Bumex®

bumetanide/Roche

0.5-mg, 1-mg and 2-mg scored tablets; 2-ml ampuls and 2-ml, 4-ml and 10-ml vials (0.25 mg/ml)

References: **1.** Flamenbaum W: *Am J Cardiol 57*(2):38A-43A, 1986. **2.** Brater DC, Fax WR, Chennavasin P: *J Clin Pharmacol 21*:599-603, 1981. **3.** Iber FL, Baum RA: *J Clin Pharmacol 21*:697-700, 1981. **4.** Henning R, Lundvall O: *Eur J Clin Pharmacol 6*:224-227, 1973. **5.** Physicians' Desk Reference, 40th ed. Oradell, NJ, Medical Economics Company, 1986, pp. 939, 1480. **6.** Pentikainen PJ, *et al*: *Br J Clin Pharmacol 4*:39-44, 1977. **7.** *Lasix, A Review.* Somerville, NJ, Hoechst-Roussel Pharmaceuticals, Inc., 1980.

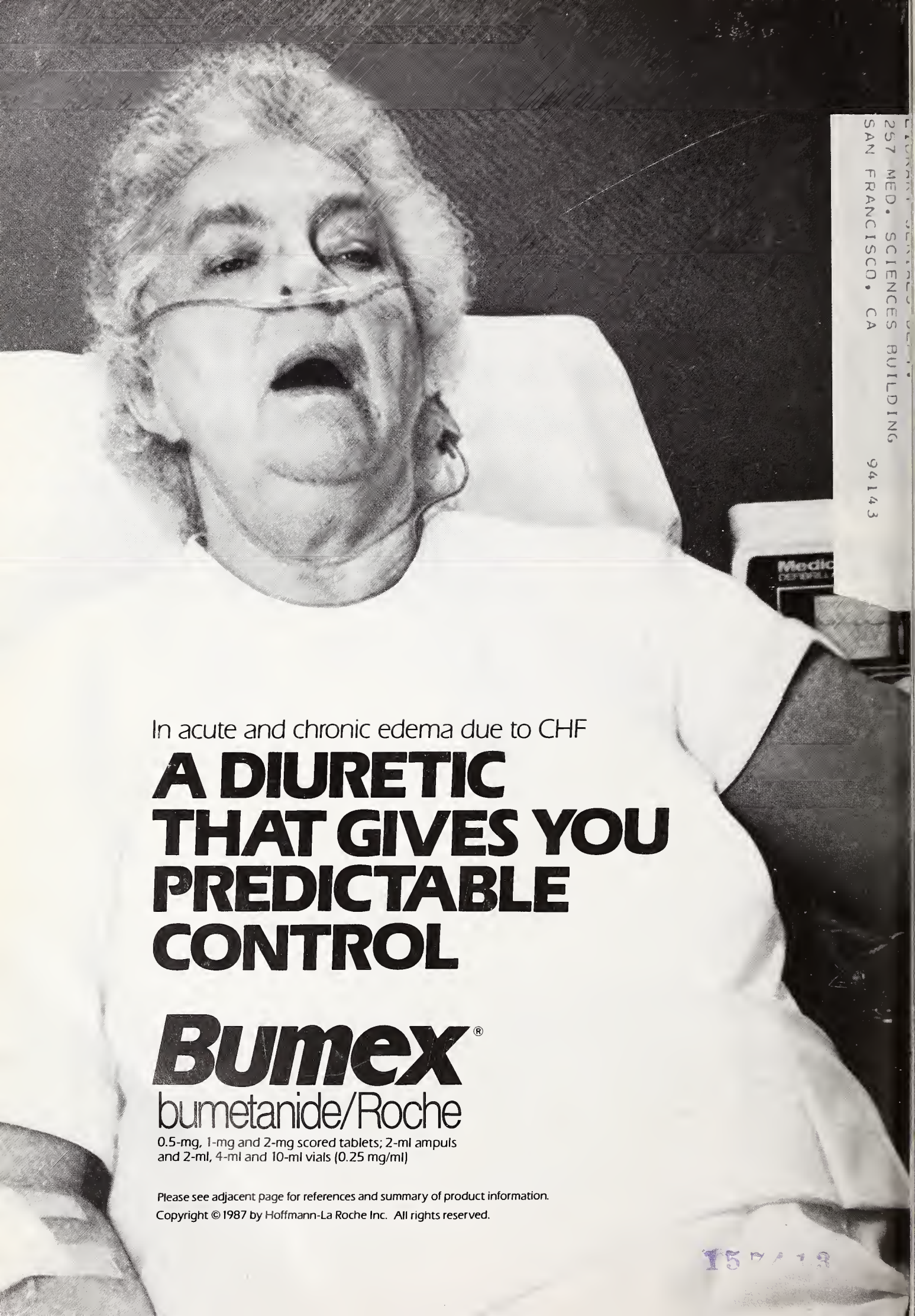
BUMEX®
(bumetanide/Roche)
0.5-mg, 1-mg and 2-mg scored tablets
2-ml ampuls, 2-ml, 4-ml and
10-ml vials (0.25 mg/ml)
Before prescribing, please consult complete product information, a summary of which follows:

WARNING: Bumex (bumetanide/Roche) is a potent diuretic which, if given in excessive amounts, can lead to a profound diuresis with water and electrolyte depletion. Therefore, careful medical supervision is required, and dose and dosage schedule have to be adjusted to the individual patient's needs. (See under DOSAGE AND ADMINISTRATION in complete product information.)

INDICATIONS AND USAGE: Edema associated with congestive heart failure, hepatic and renal disease, including the nephratic syndrame.
Almast equal diuretic response occurs after aral and parenteral administration af Bumex. If impaired gastraintestinal absarptian is suspected ar aral administration is nat practical, Bumex shauld be given by the intramuscular ar intravenaus raute.
Successful treatment with Bumex fallawing instances af allergic reactians ta furasemide suggests a lack af crass-sensitivity.
CONTRAINDICATIONS: Anuria. Hypersensitivity and in patients in hepatic cama ar in states af severe electralyte depletian. Althaugh Bumex can be used ta induce diuresis in renal insufficiency, any marked increase in blaad urea nitragen ar creatinine, ar the development af aliguria during therapy af patients with pragressive renal disease, is an indicatian far discantinuatian af treatment.
WARNINGS: Dase shauld be adjusted ta patient's needs. Excessive dases ar taa frequent administratian can lead ta prafaund water lass, electralyte depletian, dehydratian, reductian in blaad valume and circulatary callapse with the passibility af vascular thrambasis and embalism, particularly in elderly patients.
Prevention af hypakalemia requires particular attentian in patients receiving digitalis and diuretics far cangestive heart failure, hepatic cirrhasis and ascites, states af aldasterane excess with narmal renal function, patassium-lasing nephrapathy, certain diarrheal states, ar ather states where hypakalemia is thaught ta represent particular added risk ta the patients.
In patients with hepatic cirrhasis and ascites, sudden alterations af electralyte balance may precipitate hepatic encephalapathy and cama. Treatment in such patients is best initiated in the haspital with small dases and careful manitaring af the patient's clinical status and electralyte balance. Supplemental patassium and/ar spiranalactane may prevent hypakalemia and metabalic alkalasis in these patients.
In cats, dags and guinea pigs, Bumex has been shawn ta praduce atataxicity. Since Bumex is abaut 40 ta 60 times as patent as furasemide, it is anticipated that blaad levels necessary ta praduce atataxicity will rarely be achieved. The patential far atataxicity increases with intravenaus therapy, especially at high dases.
Patients allergic ta sulfanamides may shaw hypersensitivity ta Bumex.
PRECAUTIONS: Measure serum patassium periadically and add patassium supplements ar patassium-sparing diuretics, if necessary. Periadic determinatians af ather electralytes are advised in patients treated with high dases ar far pralanged periads, particularly in thase an law salt diets.
Hyperuricemia may accur. Reversible elevatians af the BUN and creatinine may accur, especially with dehydratian and in patients with renal insufficiency. Bumex may increase urinary calcium excretian.
Passibility af effect an glucase metabalism exists. Periadic determinatians af blaad sugar shauld be dane, particularly in patients with diabetes ar suspected latent diabetes.
Patients shauld be abserved regularly far passible accurrence af blaad dyscrasias, liver damage ar idiasyncratic reactians.
Especially in presence af impaired renal function, use af parenterally administered Bumex shauld be avaided in patients ta wham aminaglycaside antibiatics are alsa being given, except in life-threatening canditians.
Drugs with nephrataxic patential and bumetanide shauld nat be administered simultaneausly.
Since lithium reduces renal clearance and adds a high risk af lithium taxicity, it shauld nat be given with diuretics.
Prabenecid shauld nat be administered cancurrently with Bumex.
Cancurrent therapy with indamethacin nat recammended.
Bumex may patentiate the effects af antihypertensive drugs, necessitating reductian in dasage.
Interaction studies in humans have shawn na effect an digaxin blaad levels.
Interaction studies in humans have shawn Bumex ta have na effect an warfarin metabalism ar an plasma prathrambin activity.
Pregnancy: Bumex shauld be given ta a pregnant waman anly if the patential benefit justifies the patential risk ta the fetus.
Bumetanide may be excreted in breast milk.
Pediatric Use: Safety and effectiveness belaw age 18 nat established.
ADVERSE REACTIONS: Muscle cramps, dizziness, hypatensian, headache and nausea, and encephalapathy (in patients with preexisting liver disease).
Less frequent clinical adverse reactians are weakness, impaired hearing, rash, pruritus, hives, electracardiagram changes, abdaminal pain, arthritic pain, musculaskeletal pain and vamiting.
Other clinical adverse reactians are vertiga, chest pain, ear discamfart, fatigue, dehydratian, sweating, hyperventilatian, dry mauth, upset stamach, renal failure, asterixis, itching, nipple tenderness, diarrhea, premature ejaculatian and difficulty maintaining an erectian.
Labaratary abnarmalities reparted are hyperuricemia, azatemia, hyperglycemia, increased serum creatinine, hypachlaremia, hypakalemia, hypanatremia, and variatians in CO_2 cantent, bicarbanate, phaspharus and calcium. Althaugh manifestatians af the pharmacalagic actian af Bumex, these canditians may became mare pranaunced by intensive therapy.
Diuresis induced by Bumex may alsa rarely be accampanied by changes in LDH, tatal serum bilirubin, serum prateins, SGOT, SGPT, alkaline phasphatase, chalesteral, creatinine clearance, deviatians in hemaglabin, prathrambin time, hematacrit, platelet caunts and differential caunts; increases in urinary glucase and urinary pratein have alsa been seen.
DOSAGE AND ADMINISTRATION:
Oral Administration: The usual tatal daily dasage is 0.5 ta 2.0 mg and in mast patients is given as a single dase.
Parenteral Administration: Administer ta patients (IV ar IM) with GI absarptian prablem ar wha cannat take aral. The usual initial dase is 0.5 ta 1 mg given aver 1 ta 2 minutes. If insufficient respanse, a secand ar third dase may be given at 2 ta 3 haur intervals up ta a maximum af 10 mg a day.
HOW SUPPLIED: *Tablets*, 0.5 mg (light green), 1 mg (yellaw) and 2 mg (peach), battles af 100 and 500; Prescriptian Paks af 30; Tel-E-Dose® cartans af 100. Imprint an tablets: 0.5 mg—ROCHE BUMEX 0.5; 1 mg—ROCHE BUMEX 1; 2 mg—ROCHE BUMEX 2.
Ampuls, 2 ml, 0.25 mg/ml, boxes af ten.
Vials, 2 ml, 4 ml and 10 ml, 0.25 mg/ml, boxes af ten.

P.I. 0985

Roche Laboratories
a division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110



257 MED. SCIENCES BUILDING
SAN FRANCISCO, CA 94143

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A DIURETIC THAT GIVES YOU PREDICTABLE CONTROL

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Please see adjacent page for references and summary of product information.

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